AM21-24W12V

24W Low Power AC-DC Step-down Power Supply Module



Chengdu Ebyte Electronic Technology Co.,Ltd.

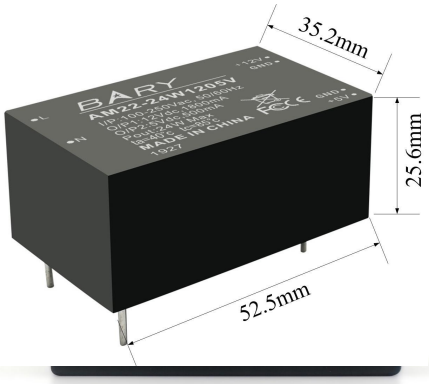
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1.Product introduction

1.1. Brief introduction

AM21-24W12V is an ultra small volume switching power module that can be used for both AC and DC applications,

The input voltage is 85-264Vac/100-370Vdc, with advantages such as ultra-low ripple, ultra-low power consumption, high efficiency, safe isolation, and high reliability; Complies with IEC60950, EN60950, and UL60950 certification standards, eliminating the need to add EMI related components to peripherals, significantly reducing user design barriers; Users do not need to consider stability, even in extremely complex voltage environments, they can still output stably.



1.2. Product features

- Ultra-low ripple: full load ripple is less than 120mV;
- Ultra-small size: 52.5*35.2*25.6mm.
- Input voltage: Global common voltage 85 ~ 264Vac/100~370Vdc.
- Certification standards: Comply with IEC60950, EN60950, UL60950 certification standards, no need to add EMI related components to peripherals.
- Protection measures: overvoltage protection, overcurrent protection, short circuit protection, overtemperature protection.
- High-quality solution: greatly improves work efficiency, with an average efficiency of 85%.

1.3. Application scenarios

- Car charging piles;
- Security alarm;
- Smart home;
- Industrial, electric power, instrumentation;
- MCU motherboard (MCU);
- Smart street lights, energy-saving lamps;
- Smart switches and sockets;
- RF communication equipment;

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2.Specification parameters

2.1. Limit parameters

Order number	Main parameter	Minimum	Maximum	Remarks
1	Input voltage （Vac）	85	264	Vac
2	Input voltage （Vdc）	100	370	Vdc
3	output power （W）	0	24	W
4	working temperature （℃）	-40	+85	**ta=40℃,tc=85℃**

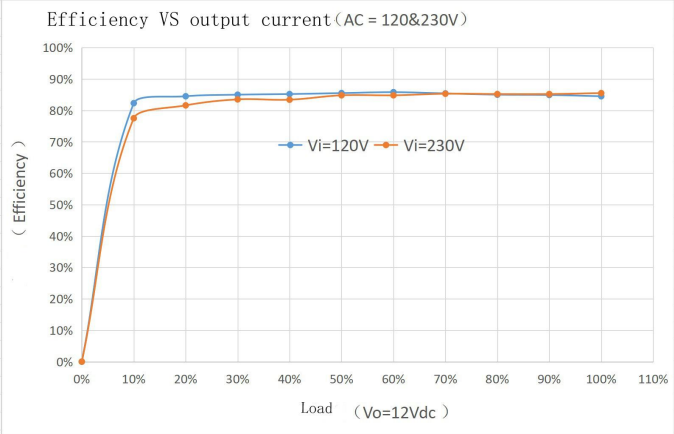
2.2. Working parameters

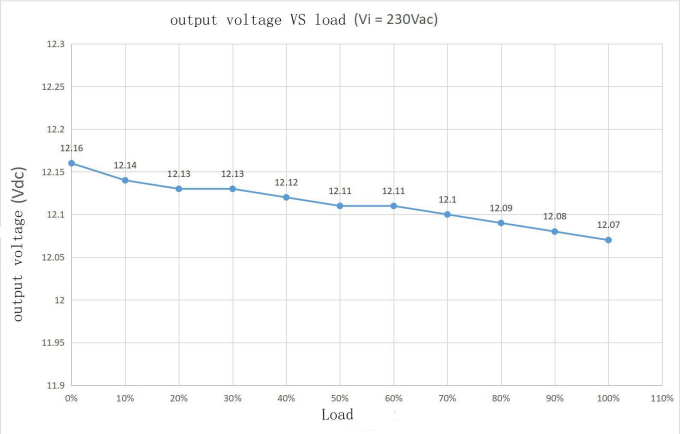
Order number	Main parameter	minimum	Typical value	Maximum	Remarks
1	Input voltage(Vac)	100	220	250	Vac
2	Input voltage(Vdc)	120	-	350V	Vdc
3	working frequency (Hz)	-	50/60	-	Hz
4	output power(W)	0	-	24	W
5	working temperature (℃)	-40	+25	85	ta=40℃,tc=85℃
6	Power factor	0.4	-	0.55	>0.55 at 120Vac / >0.4 at 230Vac Full load
7	Static power(mA)	-	-	1.0	< =1 mA / 240Vac
8	output voltage(Vdc)	12.0	12.1	12.16	V

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9	Persistent current(mA)	0	-	2	A
10	ripple noise(mV)	100	-	120	Full load<=120mV
11	Average efficiency (n%)	-	85	-	Vo=12V
12	Over current protection (%)	110	-	150	Constant current limit, can automatic recover
13	Short circuit protection	-	-	-	Hiccup mode, can automatic recover after elimination of failure state
14	Working humidity (RH%)	20	-	90	Non-condensing
15	Storage temperature (℃)	-40	+25	+85	Dry storage at normal temperature;
16	Storage humidity (RH%)	10	-	90	Dry storage at normal temperature;
17	Withstand voltage test	-	-	3000	I/P - O/P: 3000VAC
18	Insulation impedance	-	-	100	I/P - O/P: 100M ohms / 500VDC at 25 ℃

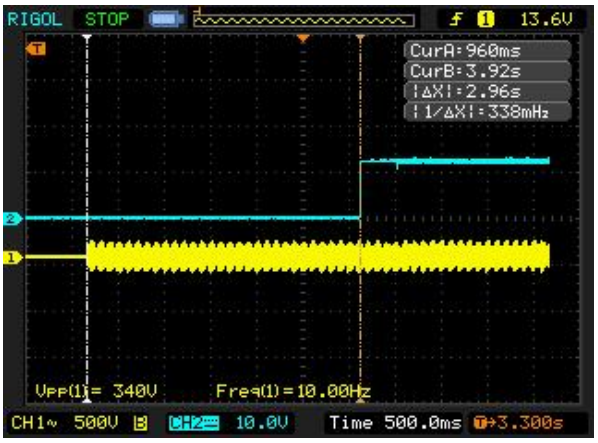
2.3. Work efficiency and load



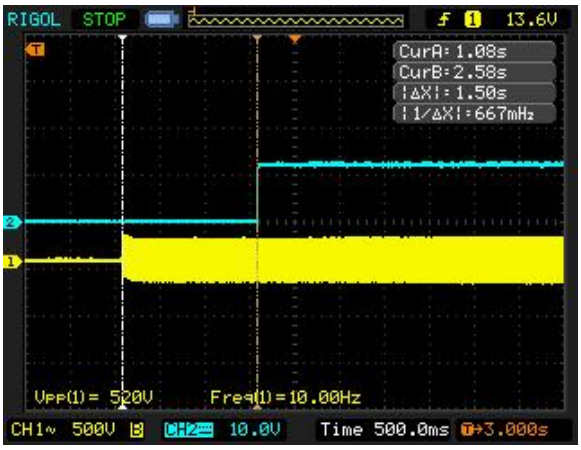


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2.4. Boot time

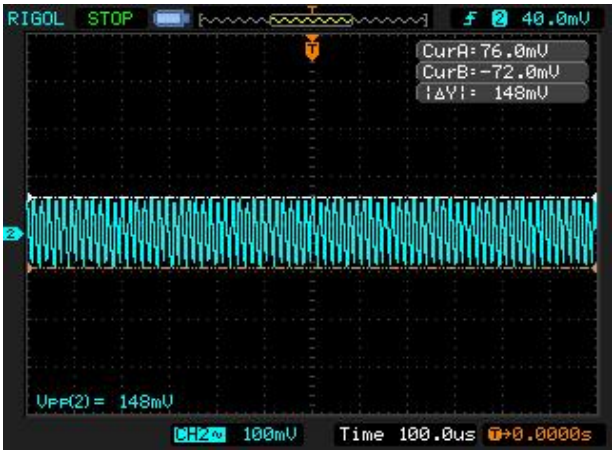


INPUT:AC 120V OUTPUT:12V 2A



INPUT:AC 230V OUTPUT:12V 2A

2.5. Full-load ripple

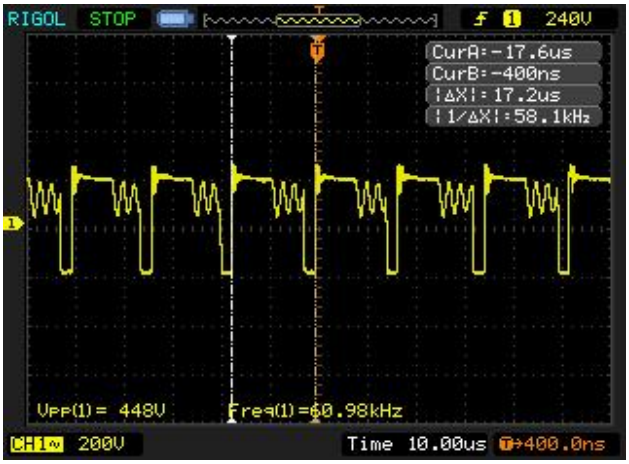


INPUT:AC 120V OUTPUT:12V 2A

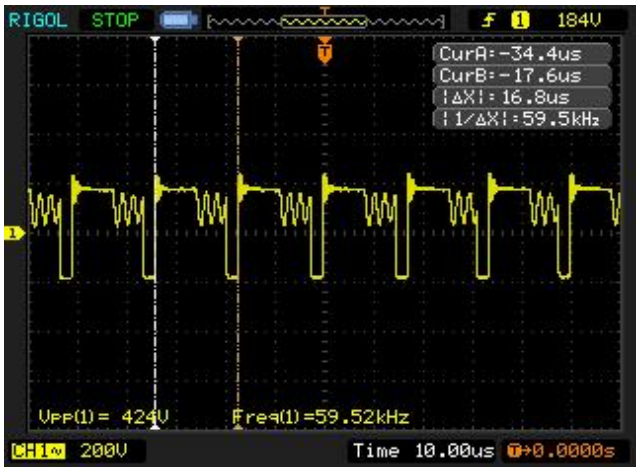


INPUT:AC 230V OUTPUT:12V 2A

2.6. Working frequency



OUTPUT:12V 2A



OUTPUT:12V 2A

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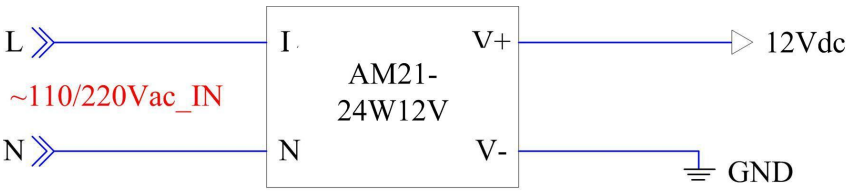
3.Basic operation

3.1. Notes

- Operating this module requires certain professional skills, prohibit non-professionals operate on it!
- Be sure to carefully study the knowledge of safe use before use.
- After power on, be careful not to touch the L and N power lines with your body to prevent electric shock accidents. It is recommended to add isolation at the input front end.
- The maximum input voltage must not exceed 250Vac, otherwise the module may be permanently damaged.
- During daily maintenance, the input power supply should be disconnected first to prevent electric shock and accidents.

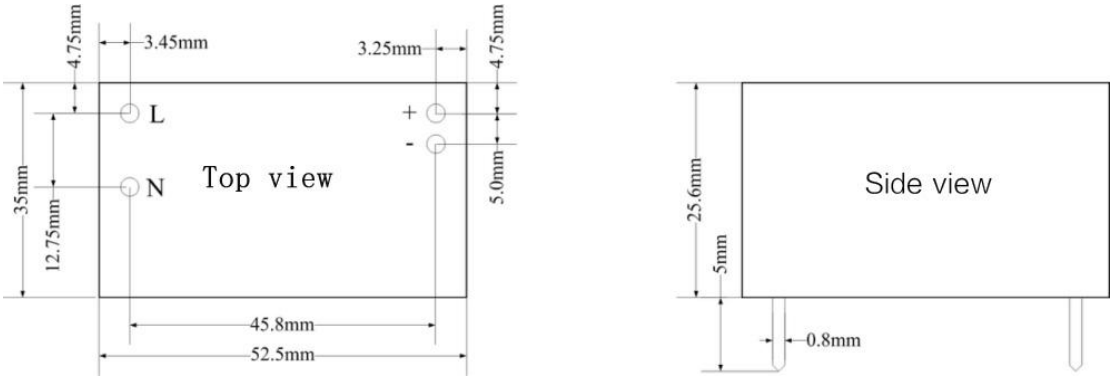
3.2. Typical application

*Note: No additional components are required for input and output. Meet safety certification requirements.



4.Mechanical characteristics and pin definition

4.1. Product size



4.2. Pin Definition

Order number	Pin name	orientation	Usage
1	L	input	AC power input

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2	N	input	AC power input
3	-	output	Direct-current output, power ground.
4	+	output	Direct-current output, positive power supply.

5. Product selection

Product model	Input voltage	Output voltage	Output current	Efficiency	Installation mode
AM21-24W05V	100 ~ 250Vac	5Vdc	4A	76%	Plastic package plug-ins
AM21-24W12V	100 ~ 250Vac	12Vdc	2A	85%	Plastic package plug-ins
AM21-24W24V	100 ~ 250Vac	24Vdc	1A	87%	Plastic package plug-ins

Revision history

Order number	vision	modification date	Revision notes	Maintain person
1	V1.0	20190301	First edition, first public release	Deng
1	V1.1	20190801	Change parameters	Deng

About us

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