
AM31-12W24V User Manual

380V Series 12W low-power AC-DC step-down power module



Chengdu Ebyte Electronic Technology Co.,Ltd.

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Chapter 1 product overview

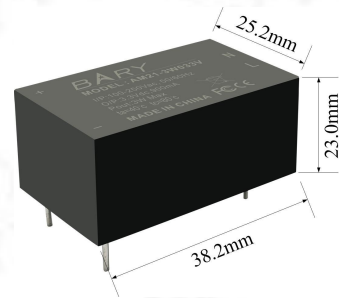
1.1. Brief Introduction

AM31-12W24V is an ultra-small volume switching power module, AC and DC Input voltage 85~264Vac/100~370Vdc, ultra-low ripple, ultra-low power consumption, high efficiency,

Safety isolation, high reliability and other advantages; Comply with IEC60950, EN60950, UL60950

Certification standards, peripherals do not need to increase EMI related components, significantly reducing user design doors

A sill; Households do not need to consider stability, even in extremely complex voltage environments, can also be stable Fixed output.



dual use,

1.2. Features

- Ultra-low ripple: The full load ripple is less than 120mV;
- Ultra-small size: 38.2*25.2*23mm
- Input voltage: global general voltage 85 ~ 264Vac/100~370Vdc;
- Certification standards: in line with IEC60950, EN60950, UL60950 certification standards, Peripheral devices do not need to add EMI related components;
- Protection measures: over voltage protection, over current protection, short circuit protection, over temperature protection;
- High quality program: its working efficiency is greatly improved, with an average efficiency of 83%;

1.3. Application

- Automobile charging pile;
- Security alarm;
- Smart home;
- Industry, electric power, instrumentation;
- Single-chip microcomputer motherboard (MCU);
- Intelligent street lamp, energy-saving lamps;
- Intelligent switch, socket;
- RF communication equipment;;

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Chapter I Specification parameters

2.1. Limit parameters

NO.	Parameters	Min	Max	Notes
1	Input voltage (Vac)	85	450	Vac
2	Input voltage (Vdc)	120	630	Vdc
3	Output power (W)	0	12	W
4	Operating temperature (°C)	-40	+85	ta=40°C, tc=85°C

2.2. Operating parameter

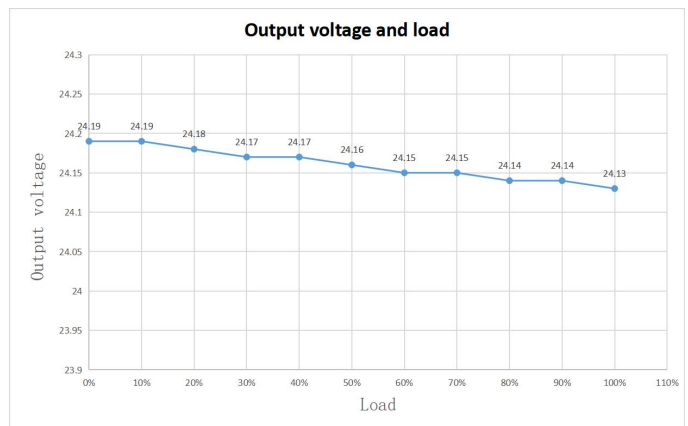
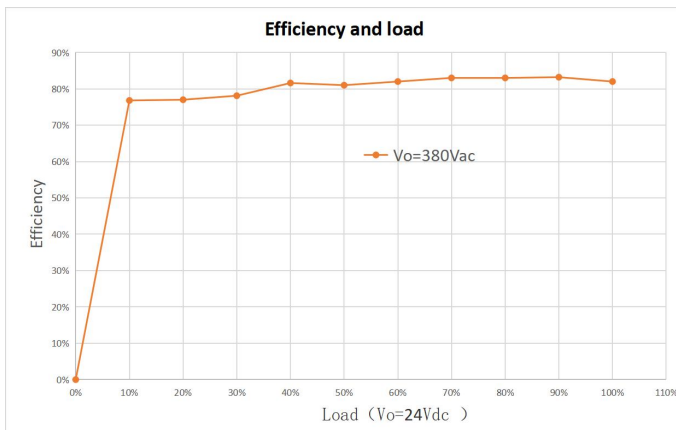
NO.	Parameters	Min	Typical	Max	Notes
1	Input voltage	100	-	430	Vac
2	Input voltage	120	-	600V	Vdc
3	Start-up time	-	-	1500	mS
3	Operating frequency	45	50	60	Hz
4	Output power	0	-	12	W
5	Operating temperature	-40	+25	85	ta=40°C, tc=85°C
6	Power factor	0.4	-	0.55	>0.55 at 120Vac / >0.4 at 230Vac With full load
7	Static power consumption	-	-	1.0	<=1 mA / 240Vac
8	Output voltage	23.9	24.1	24.3	Vdc
9	Sustained current	0	-	0.5	A
10	Ripple noise	-	-	120	mV
11	Conversion efficiency	-	-	83	%
12	Overcurrent protection	110	-	150	%(Constant current limit, automatic recovery)
13	Short circuit	-	-	-	Hiccup mode: automatically recovers after the fault is

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	protection				eliminated
14	Working humidity	20	-	90	RH% non-condensing
15	Storage temperature	-40	+25	+85	°C Dry storage at room temperature
16	Working humidity	10	-	90	RH% Dry storage at room temperature
17	Withstand voltage	-	-	3000	I/P - O/P: 3000VAC
18	Insulation impedance	-	-	100	I/P - O/P: 100M ohms / 500VDC at 25 °C

2.3. Work efficiency and load



Chapter 3 Basic Operations

3.1. Notes

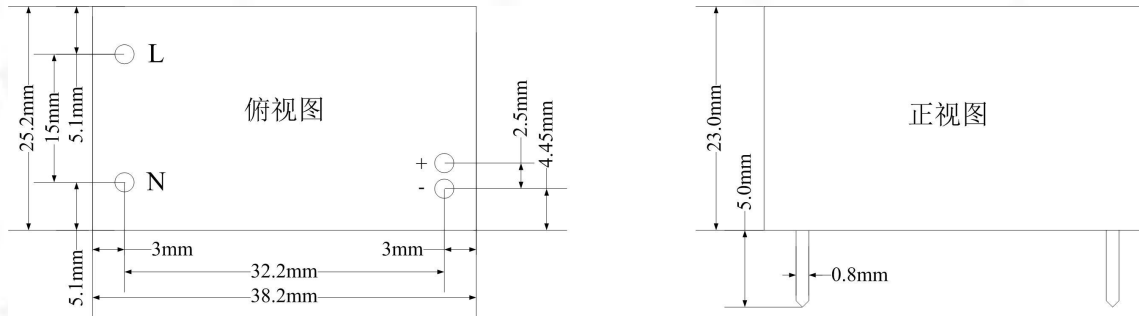
- The operation of this module requires certain professional skills, strict non-professional life to operate and disassemble it!
- Before use, be sure to carefully learn the knowledge of safe use.
- After powering on the power supply, strictly contact the L and N power cables to prevent electric shock. Isolation of the input front end is recommended.
- The maximum input voltage must not exceed 250Vac, otherwise it may cause permanent damage to the module.
- During routine maintenance, the input power supply should be disconnected first to prevent electric shock transmission accidents.

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Chapter 4 Mechanical characteristics and pin definition

4.1. Product Size



Chapter 5 product selection

P/N	Input voltage	Output voltage	Output current	efficiency	Installation mode
AM31-12W05V	85 ~ 450Vac	5Vdc	2.4A	76%	Plastic sealing plug
AM31-12W12V	85 ~450Vac	12Vdc	1A	79%	Plastic sealing plug
AM31-12W24V	85 ~ 450Vac	24Vdc	0.5A	83%	Plastic sealing plug

Revise History

NO.	Version	Revise Date	Revise description	maintainer
1	V1.0	20221228	First edition, first release	FX
2	V1.1	20230321	Modify parameter	LJ

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