AP21-24W24N

24W Enclosed Type AC-DC Step Down Switching Power Supply

Chengdu Ebyte Electronic Technology Co.,Ltd.

Contents

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1 Introduction

1.1. Brief Introduction

AP21-24W24N is a small enclosed type switching power supply, AC and DC dual purpose, input voltage 85~264Vac/100~370Vd, with the advantages of low ripple, low power consumption, high efficiency, security isolation, high reliability, etc...; Comply with IEC60950、EN60950、UL60950 certification, no extra EMC related components to peripherals，good for user design; Users do not have to worry about stability, even in extremely complex voltage environment, can be stable output.

1.2. Features

- Input voltage: International universal full voltage AC input 85 ~ 264Vac/100~370Vdc;
- Static power Consumption: <0.1W;
- Low ripple: Ripple at full load 50m;
- Small size: 85x58x33mm;
- Certification: IEC60950、EN60950、UL60950，
  No extra EMC related components to peripherals;
- Protective: over voltage protection,over current protection, short circuit protection, over-temperature protection;
- Excellent solution: work more efficiently;
- High quality components: 105℃ high-quality brand electrolytic capacitor;
- Operating temperature：The maximum operating temperature is 70℃.

1.3. Application

- Industrial equipment;
- Instrumentation;
- Solenoid valve, eelay;
- Billboard;
- Car charging pile;
- Security Products;
- Smart home;
- Smart street light;
- RF communication base station equipment.

2 Specification and parameter

2.1. Limit parameter

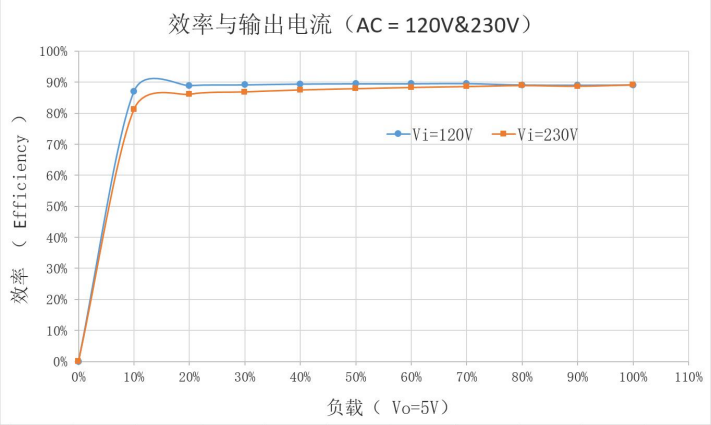
No.	Limit parameter	Min	Max	Remark
1	Input voltage	85	264	Vac
2	Output voltage	100	370	Vdc
3	Output power	0	25	W
4	Operating temperature	-40	+85	ta=40℃,tc=85℃

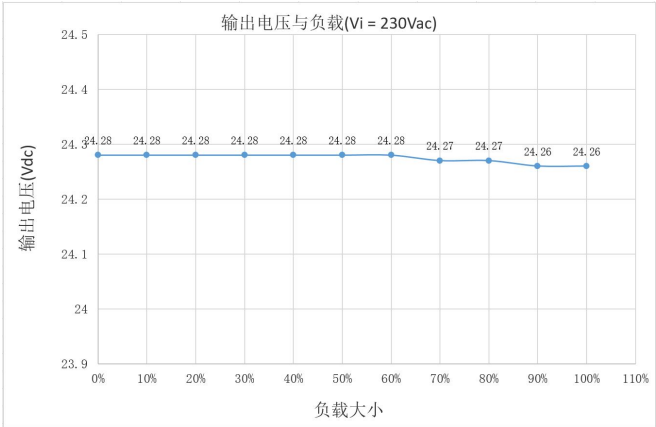
2.2. Operating parameter

No.	Main parameter	Min	Type	Max	Remark
Input	Input voltage - AC	100	220	250	Vac
	Input voltage - DC	120	-	350V	Vdc
	Operating frequency	-	50/60	-	Hz
	Surge current	-	-	10	10 A at 230 Vac
	Static power	-	-	< 0.1	W
	Highest efficiency	81.2	-	89.1	%
Output	Output voltage	23.5	24	24.5	V
	Sustained current	0	-	1	A
	Output power	0	-	24	W
	Ripple noise	30	-	50	mV
	Voltage adjustment range	-	±0.5	-	V
	Output voltage accuracy	-	-	±1.5	%
	Boot time	400	600	1200	ms
	Line regulation	-	0.5	-	%
	Load regulation	-	0.5	-	%
Protective	Over current protection	110	-	150	%
	Short circuit protection	-	-	-	Hiccup mode, automatic recovery after the fault state is eliminated
Ambient	Operation temperature	-40	25	85	ta=40℃,tc=85℃
	Operating	20	-	90	RH

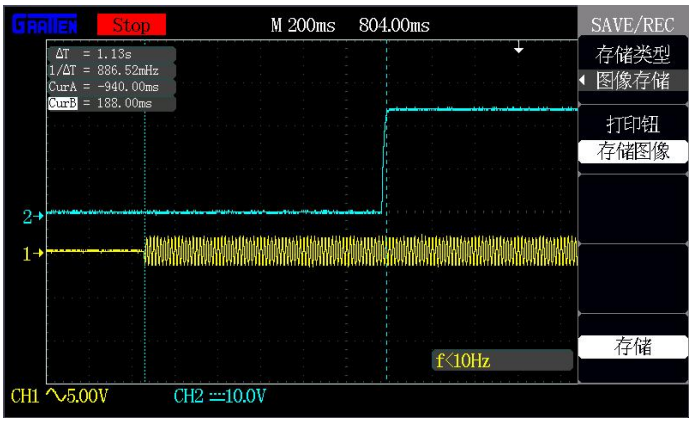
	humidity				
	Storage temperature	-40	+25	+85	Dry storage at room temperature
	Storage humidity	10	-	90	Dry storage at room temperature
Safety	Dielectric voltage withstan	-	-	3000	VAC I/P - O/P
	Insulation resisance	-	-	500	I/P - O/P: 100M ohms / 500VDC at 25 ℃
	Safety	IEC60950、EN60950、UL60950 certification			
Other	Size	85x58x33mm			
	Weight	-	116	-	g

2.3. Efficiency and load

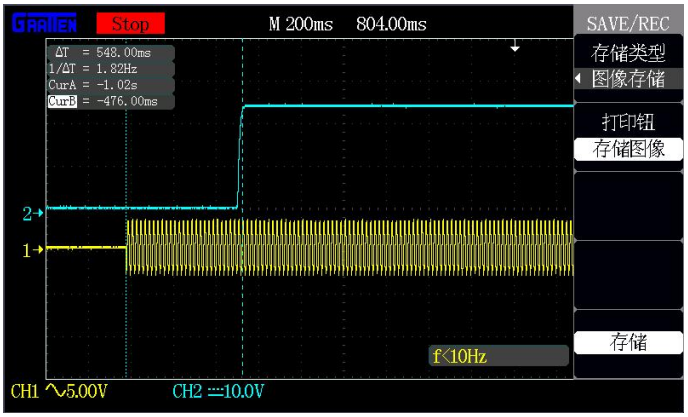




2.4. Boot time

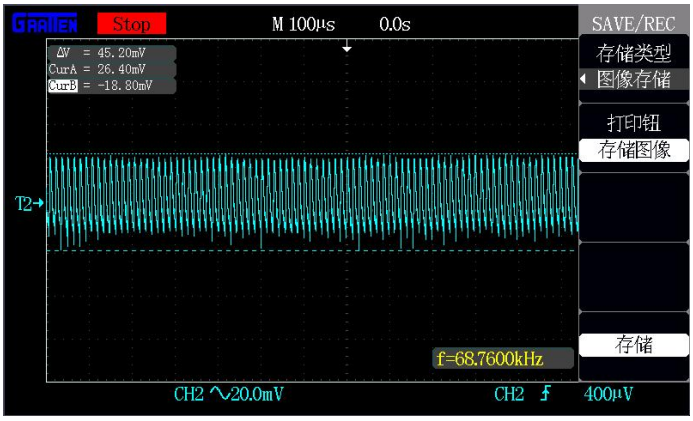


INPUT:AC 120V OUTPUT:24V 1A

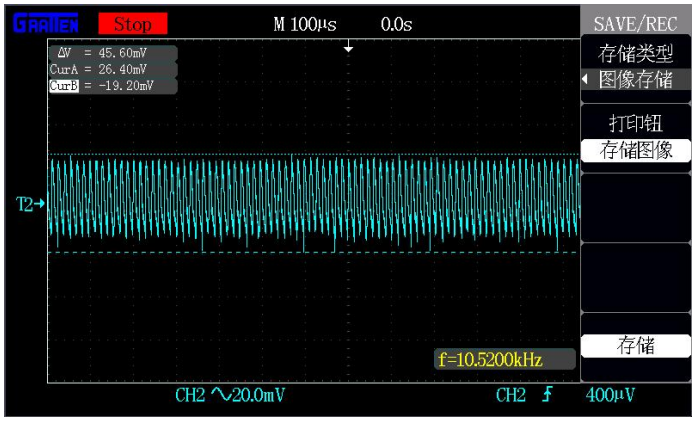


INPUT:AC 230V OUTPUT: 24V 1A

2.5. Full load ripple

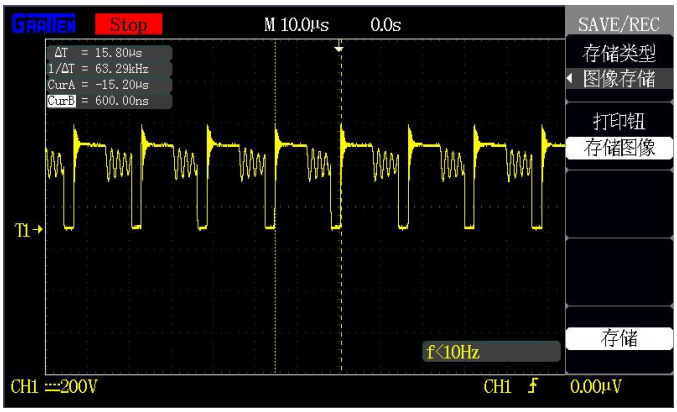


INPUT:AC 120V OUTPUT: 24V 1A

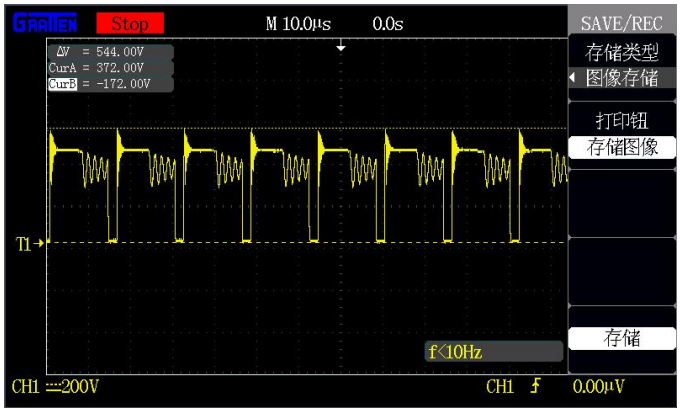


INPUT:AC 230V OUTPUT: 24V 1A

2.6. Operating frequency

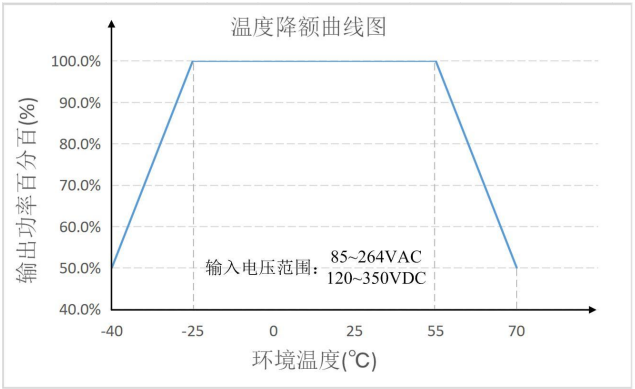


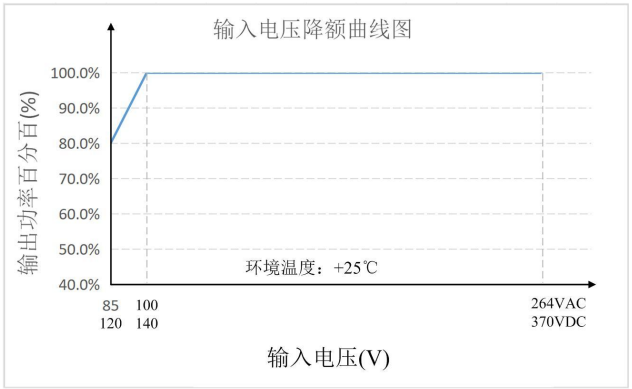
INPUT:AC 120V OUTPUT: 24V 1A



INPUT:AC 230V OUTPUT: 24V 1A

2.7. Characteristic curve - reduction design





Note：①For the input voltage of 85-100VAC/120-140VDC, the input voltage shall be de-rated based on the temperature de-rated；

②This product is suitable for use in natural wind cooling environment. If it is used in a closed environment, please consult our FAE.

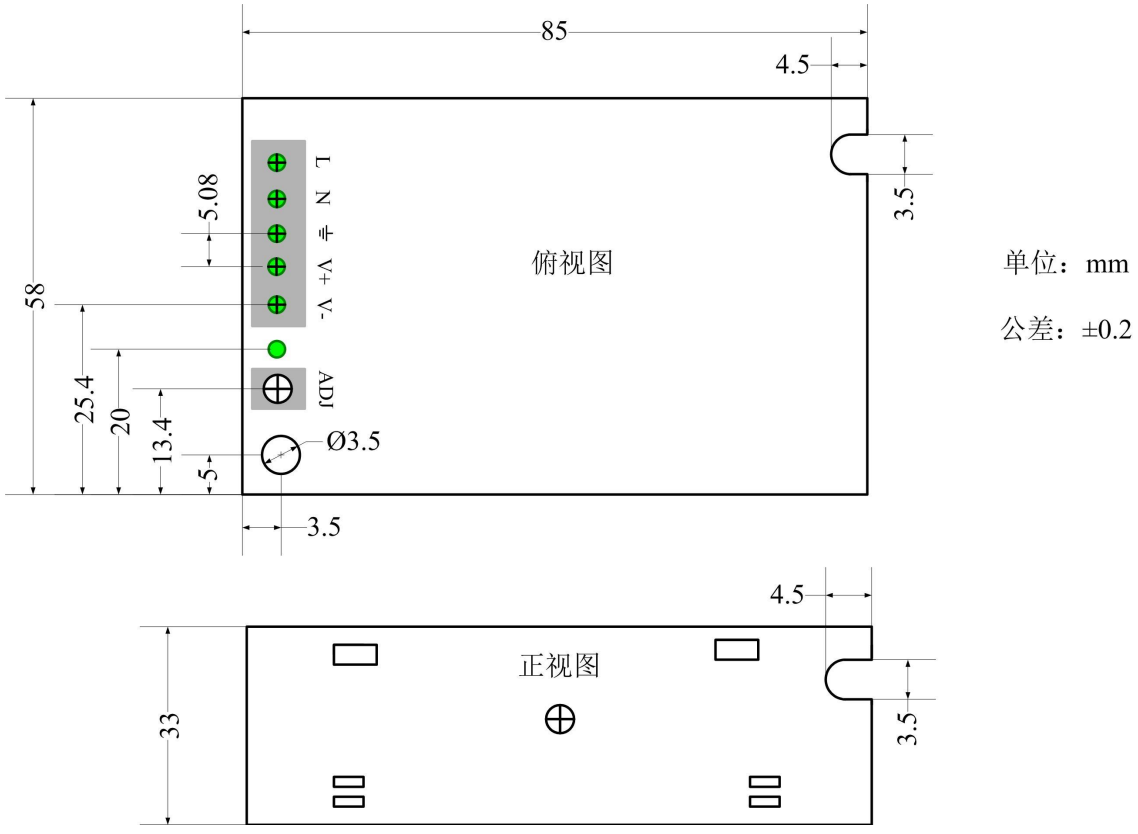
3 Basic operation

3.1. Attention

- Operation of this module requires certain professional skills, and rigorous non-professionals operate it!
- Be sure to learn the knowledge of safe use before use.
- Strictly contact L and N power lines after electrification to prevent electric shock accidents. It is recommended to increase the isolation of the input front end.
- The maximum input voltage shall not exceed 250Vac, otherwise permanent damage to the module may be caused.
- During routine maintenance, disconnect the input power first to prevent electric shock transmission accidents.

4 Mechanical property and pin definition

4.1. Size



4.2. Pin definition

No.	Name	Direction	Purpose
1	L	Input	AC power input
2	N	Input	AC power input
3	⏚	/	Ground
4	V-	Output	Dc output, power supply ground
5	V+	Output	Dc output, positive power supply

5 AP21 series

Model No.	Input voltage	Output voltage	Output current	Efficiency	Install
AP21-24W05N	100 ~ 250Vac	5Vdc	4.8A	85.3%	Plastic plug-in
AP21-24W12N		12V	2A	86.4%	Plastic plug-in
AP21-24W24N		24V	1A	89.1%	Plastic plug-in

Revision history

No.	Ver.	Date	Description	Issued by
1	V1.0	20191203	First edition, first release	LJ

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