DESCRIPTIONS

600W, AC-DC Converter



RoHS

CE Report EN62368-1

UKCA Report BS EN62368-1

FEATURES

- AC Input voltage range: 90 - 132VAC/180 - 264VAC
- DC Input voltage range: 255 - 370VDC
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40℃ to +70℃
- High efficiency, low ripple & noise
- High I/O isolation test voltage up to 4000VAC
- 200% peak load output for 5 second
- Output short circuit, over-current, over-voltage, over-temperature protection
- Operating altitude up to 5000m
- Meets pollution degree 3
- Conformal coating on both sides of the substrate

APPLICATIONS

- Industrial control
- LED
- Street light control
- Security
- Telecommunications
- Smart home

Selection Guide

Certification	Part No.	Cooling Method	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (μF)
--	AE600-2B-12S	Forced air cooling	600	12V/50A	11.4-13.2	90	30000
EN/BS EN	AE600-2B-24S		600	24V/25A	22.8-26.4	91	10000
	AE600-2B-36S		597.6	36V/16.6A	34.2-39.6	92	8000
	AE600-2B-48S		600	48V/12.5A	45.6-52.8	92	6000

Note:

1. If the terminal cover is required, please order "CPJ-049" for self-installation.
2. Under any conditions, the total power of the product should not exceed the rated power. When the output voltage is increased, the total output power cannot exceed the rated output power, when the output voltage is decreased, the output current cannot exceed the rated output current.
3. The product picture is for reference only. For details, please refer to the actual product.

Specifications

Product Specifications	Item	Operating Conditions			Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range	Rated input (Certified voltage)			100	--	120	VAC
					200	--	240	
		AC input	Low voltage (switch in position of 115)		90	--	132	
			High voltage (switch in position of 230)		180	--	264	
		DC input	Switch in position of 230		255	--	370	VDC
	Input Voltage Frequency				47	--	63	Hz
	Input Current	115VAC			--	12	--	A
		230VAC			--	7.5	--	
	Inrush Current	115VAC	Cold start		--	35	--	
		230VAC			--	60	--	
	Start-up Delay Time	115VAC/230VAC			--	1300	--	ms
	Input Fuse	Built-in fuse			--	16	--	A
	Hot Plug				Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range	12V		--	±1.5	--	%
			24V/36V/48V		--	±1	--	
	Line Regulation	Rated load			--	±0.5	--	
	Load Regulation	0% - 100% lo	12V		--	±1	--	
			24V/36V/48V		--	±0.5	--	
	Minimum Load				0	--	--	
	Stand-by Power Consumption	230VAC input			--	5	10	W
	Ripple & Noise*	20MHz bandwidth (peak-peak value)		12V	--	--	200	mV
				24V	--	--	240	

				36V/48V	--	--	360	
	Temperature Coefficient				--	±0.03	--	%/℃
	Hold-up Time		115VAC		--	16	--	ms
			230VAC		--	20	--	
	Output Peak Power		230VAC input, 200% Io		--	5	--	s
	Short Circuit Protection				Hiccup, continuous, self-recover			
	Over-current Protection		230VAC		105% - 200%Io, constant voltage mode, shut down after 5s, self-recover			
	Over-voltage Protection		12V		13.8-18V (Hiccup, self-recover)			
			24V		27.6-32.4V (Hiccup, self-recover)			
			36V		41.4-48.6V (Hiccup, self-recover)			
			48V		55.2-64.8V (Hiccup, self-recover)			
	Over-temperature Protection				Hiccup, output voltage turn off, self-recover			
General Specifications	Isolation	Input - ⏚	Electric strength test for 1min., leakage current <5mA		2000	--	--	VAC
		Input - output			4000	--	--	
		Output - ⏚			500	--	--	
	Insulation Resistance	Input - ⏚	Ambient temperature: 25 ± 5℃ Relative humidity: < 95%RH, non-condensing Test voltage: 500VDC		50	--	--	MΩ
		Input - output			50	--	--	
		Output - ⏚			50	--	--	
	Touch Leakage Current		240VAC, 60Hz		--	--	0.75	mA
	Operating Temperature				-40	--	+70	℃
	Storage Temperature				-40	--	+85	
	Operating Humidity		Non-condensing		10	--	95	%RH
	Storage Humidity				20	--	90	
	Power Derating		Operating temperature derating	-40℃ to -20℃	3	--	--	%/℃
				+45℃ to +70℃	2	--	--	
			Input voltage derating	90VAC-100VAC	2	--	--	%/VAC
				180VAC-200VAC	1	--	--	
	Safety Class				CLASS I			
	MTBF		MIL-HDBK-217F@25℃		≥300,000 h			
	Warranty		Ambient temperature: <70℃		3 years			
Mechanical Specifications	Case Material		Metal (AL5052, SGCC)					
	Dimensions		225.00mm × 124.00mm × 41.00mm					
	Weight		910g (Typ.)					
	Cooling Method**		Forced air cooling					

Note: 1. *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor,
2. **Cooling method and power derating refer to typical characteristic curves.

Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE (Input port)	CISPR32 EN55032 150K - 30MHz		CLASS A
		RE	CISPR32 EN55032 30MHz - 1GHz		CLASS A
	Immunity (EMS)	ESD	IEC/EN61000-4-2 Contact±6KV/Air ±8KV		perf. Criteria A
		RS	IEC/EN61000-4-3 10V/m		
		EFT (Input port)	IEC/EN61000-4-4 ±4KV		
		EFT (Output port)	IEC/EN61000-4-4 ±2KV		
		Surge (Input port)	IEC/EN61000-4-5 line to line ±2KV/line to PE ±4KV		
		Surge (Output port)	IEC/EN61000-4-5 line to line ±0.5KV/line to PE ±1KV		
		MS	IEC/EN61000-4-8 30A/m		
		CS	IEC/EN61000-4-6 0.15 - 80MHz 10Vr.m.s		
		Voltage variation*	IEC61000-6-2/IEC61000-4-11	70% Un, 25/30 cycle(50/60Hz) 40% Un, 10/12 cycle(50/60Hz) 0% Un, 1 cycle	perf. Criteria B
		Voltage interruption*	IEC61000-6-2/IEC61000-4-11	0% Un, 250/300 cycle(50/60Hz)	perf. Criteria C

Note:

1. The power supply does not meet the requirements of harmonic current stipulated in EN61000-3-2; This power supply is not suitable for the following situations.

1) The terminal equipment is used in the European Union.

2) The terminal equipment is connected to public mains supply with 220VAC or greater rated nominal voltage that mandatory to meet the requirements of EN61000-3-2.

3) The power supply is installed in terminal equipment with average or continuous input power greater than 75W.

4) The power supply belong to a part of lighting system.

In addition, the power supply can be used in the following terminals which do not need to meet EN61000-3-2;

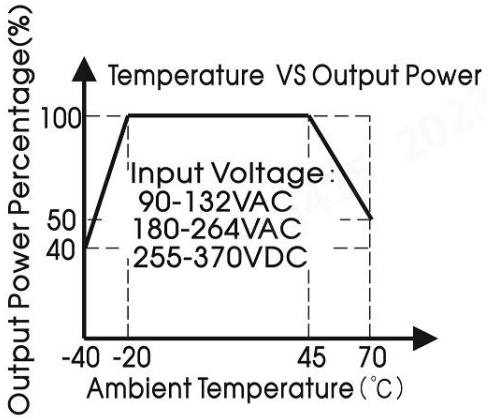
(1) Professional equipment with total fixed input power greater than 1000W;

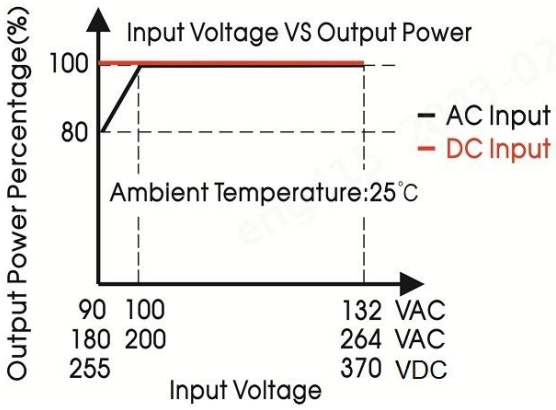
(2) symmetrical controlled heating element with rated power less than or equal to 200W.

2. If no harmonic current is required or customers can solve harmonic current problems by themselves, this product can be used.

3.. *Un is the maximum input nominal voltage.

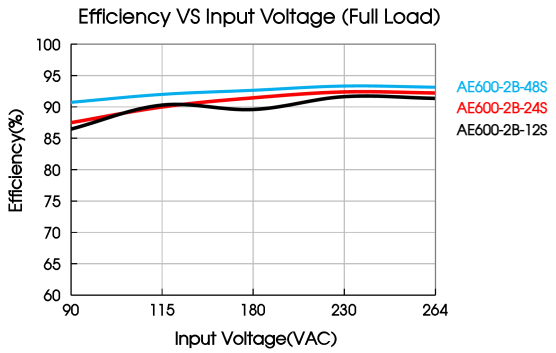
Characteristic Curve

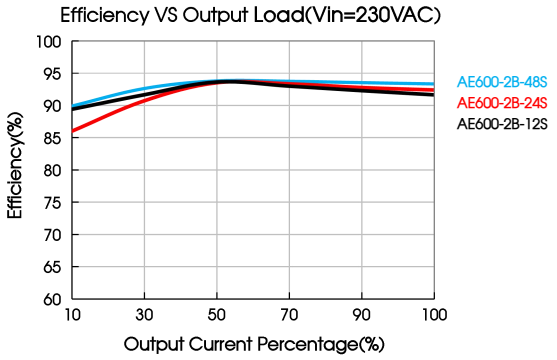




Note: 1. With an AC input voltage between 90 - 100VAC/180 - 200VAC must be derated as per the temperature derating curves;

2. This product is suitable for applications using forced air cooling; for applications in closed environment please consult our FAE.



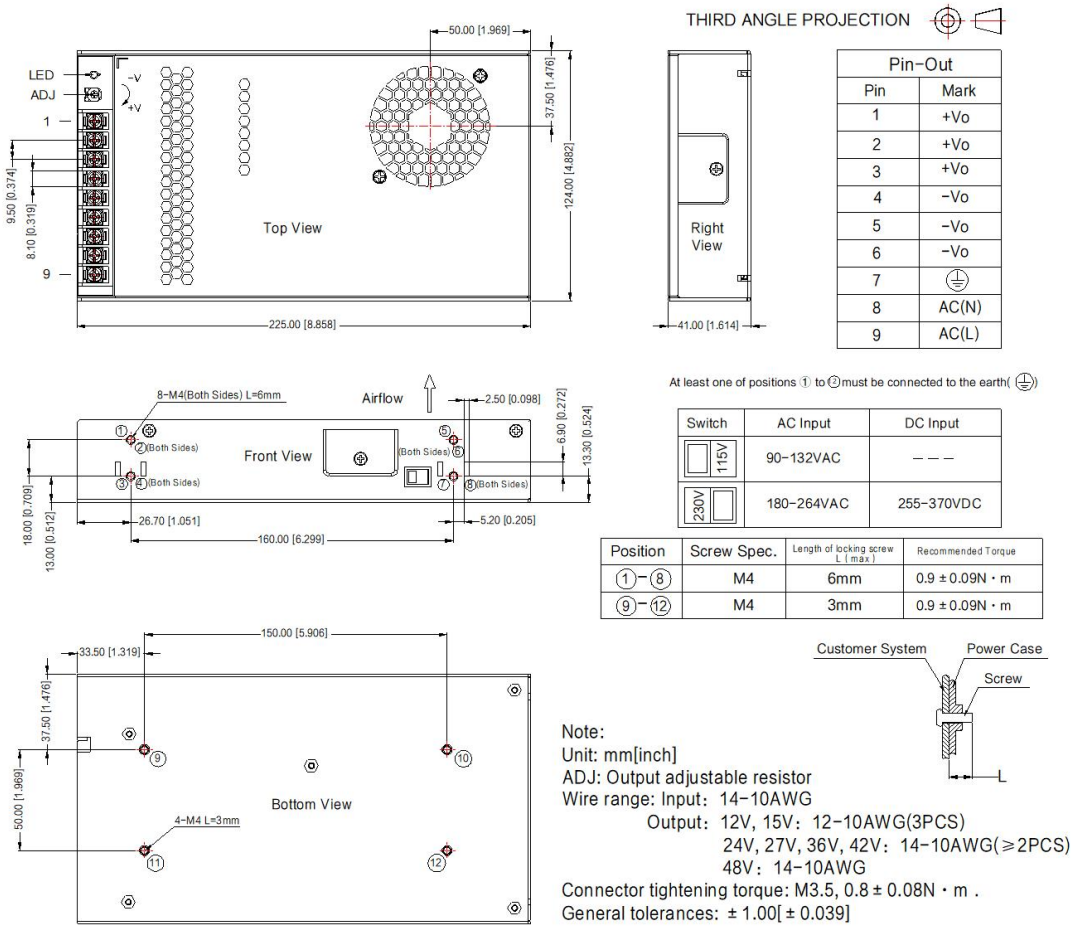


Note:

The product is equipped with a built-in cooling fan. Keep the air intake clear of debris.

If the environment cannot meet this requirement, a fanless model is recommended.

Dimensions and Recommended



Pin-Out	
Pin	Mark
1	+Vo
2	+Vo
3	+Vo
4	-Vo
5	-Vo
6	-Vo
7	⏚
8	AC(N)
9	AC(L)

At least one of positions ① to ② must be connected to the earth(⏚)

Switch	AC Input	DC Input
115V	90-132VAC	— — —
230V	180-264VAC	255-370VDC

Position	Screw Spec.	Length of locking screw L (max.)	Recommended Torque
①-⑧	M4	6mm	0.9 ± 0.09N · m
⑨-⑫	M4	3mm	0.9 ± 0.09N · m

Note:
Unit: mm[inch]
ADJ: Output adjustable resistor
Wire range: Input: 14-10AWG
Output: 12V, 15V: 12-10AWG(3PCS)
24V, 27V, 36V, 42V: 14-10AWG(≥2PCS)
48V: 14-10AWG
Connector tightening torque: M3.5, 0.8 ± 0.08N · m .
General tolerances: ± 1.00[± 0.039]

Note:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity <75%RH with nominal input voltage and rated output load;
2. The room temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
5. Products are related to laws and regulations: see "Features" and "EMC";
6. The out case needs to be connected to PE (⏚) of system when the terminal equipment in operating;
7. The output voltage can be adjusted by the ADJ, clockwise to increase;
8. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
9. The power supply is considered a component which will be installed into a terminal equipment. All EMC tests should be confirmed with the final equipment. Please consult our FAE for EMC test operation instructions.
10. The image certification marks are for reference only; please refer to the selection table for actual specifications. Certification is based on the physical mark or packaging label.