DESCRIPTIONS

350W, AC-DC Converter



RoHS

Report Report

UL62368-1 EN62368-1 BS EN62368-1

FEATURES

- Selectable AC input range: 90 - 132VAC/180 - 264VAC
- DC input range: 240 - 370VDC
- Operating ambient temperature range: - 30℃ to +70℃
- LED indicator for power on
- Output short circuit, over-current, over-voltage, over-temperature protection
- Built-in DC fan for forced air cooling
- Operating up to 5000m altitude

APPLICATIONS

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

Selection Guide

Certification	Part No.*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (μF)
UL/EN/BS EN	AE350-2B-05	300	5V/60A	4.5-5.5	83.5	10000
UL/EN/BS EN	AE350-2B-12	348	12V/29A	10.2-13.8	85	4000
UL/EN/BS EN	AE350-2B-15	348	15V/23.2A	13.5-18	86	3300
UL/EN/BS EN	AE350-2B-24	350.4	24V/14.6A	21.6-28.8	87	1500
UL/EN/BS EN	AE350-2B-36	349.2	36V/9.7A	32.4-39.6	88	1500
UL/EN/BS EN	AE350-2B-48	350.4	48V/7.3A	43.2-52.8	88.5	470

Note: *1. Use suffix "Q" for bottom conformal coating and "QQ" for both sides conformal coating.

2. If the terminal cover is required, please order "CPJ-049" for self-installation.

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	AC input	Low voltage (switch in position of 115)	90	--	132	VAC
			High voltage (switch in position of 230)	180	--	264	
		DC input	Switch in position of 230	240	--	370	VDC
	Input Voltage Frequency			47	--	63	Hz
	Input Current	115VAC		--	6.8	8	A
		230VAC		--	3.4	4	
	Inrush Current	115VAC	Cold start	--	60	--	
		230VAC		--	60	--	
	Leakage Current	240VAC		--	--	0.75	mA
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range	5V	--	±3	--	%
			12V	--	±1.5	--	
			15V/24V/36V/48V	--	±1	--	
	Line Regulation	Rated load		--	±0.5	--	
	Load Regulation	0% - 100% load	5V	--	±2	--	
			12V	--	±1	--	
			15V/24V/36V/48V	--	±0.5	--	
	Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V/12V/15V/24V	--	--	150	mV
			36V/48V	--	--	200	
	Temperature Coefficient			--	±0.02	--	%/℃
	Minimum Load			0	--	--	%
	Stand-by Power Consumption	230VAC, 25℃		--	--	1	W
	Hold-up Time	115VAC		--	12	--	ms
		230VAC		--	16	--	
	Short Circuit Protection	Recovery time <8s after the short circuit disappear		Hiccup, continuous, self-recover			
	Over-current Protection			110% - 180% Io, self-recover			
	Over-voltage Protection	5V		5.75V-6.75V (Hiccup, self-recover)			
		12V		13.8V-16.2V (Hiccup, self-recover)			
		15V		18V-21V (Hiccup, self-recover)			
		24V		28.8V-33.6V (Hiccup, self-recover)			
		36V		41.4V-46.8V (Hiccup, self-recover)			
		48V		55.2V-62.4V (Hiccup, self-recover)			
	Over-temperature			Hiccup, self-recover			

	Protection						
General Specifications	Isolation Test	Input-⏚	Electric strength test for 1min., leakage current <3mA	2000	--	--	VAC
		Input-output	Electric strength test for 1min., leakage current <5mA	3000	--	--	
		Output-⏚	Electric strength test for 1min., leakage current <3mA	500	--	--	
	Insulation Resistance	Input-⏚	Ambient temperature: 25 ± 5℃ Relative humidity: < 95%RH, no condensation Test voltage: 500VDC	100	--	--	MΩ
		Input-output		100	--	--	
		Output-⏚		100	--	--	
	Operating Temperature			-30	--	+70	℃
	Storage Temperature			-40	--	+85	
	Fan On/Off Control		Fan On, temperature for Rth3	50	--	--	
			Fan Off, temperature for Rth3	--	--	40	
	Operating Humidity		Non-condensing	20	--	90	%RH
	Storage Humidity			10	--	95	
	Switching Frequency			--	65	--	kHz
	Power Derating		Operating temperature derating	+50℃ to +70℃	2	--	--	%/℃
			Input voltage derating	90VAC - 100VAC	2	--	--	%/VAC
				100VAC -132VAC	0	--	--	
				180VAC - 264VAC	0	--	--	
				240VDC - 370VDC	0	--	--	%/VDC
	Safety Class				CLASS I		
	MTBF		MIL-HDBK-217F@25℃		≥300,000 h		
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)				
	Dimensions		215.00 mm x 115.00 mm x 30.00mm				
	Weight		700g (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.

Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32/EN55032 CLASS A	
		RE	CISPR32/EN55032 CLASS A	
	Immunity	ESD	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV	perf. Criteria A
		RS	IEC/EN61000-4-3 10V/m	perf. Criteria A
		EFT	IEC/EN61000-4-4 ±2KV	perf. Criteria A
		Surge	IEC/EN61000-4-5 line to line ±2KV/line to PE ±4KV	perf. Criteria A
		CS	IEC/EN61000-4-6 10Vr.m.s	perf. Criteria A
		DIP	IEC/EN61000-4-11 0%, 70%	perf. Criteria B

Remark:

1. One magnetic beed should be coupled with the output load line during CE/RE testing.
2. 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;

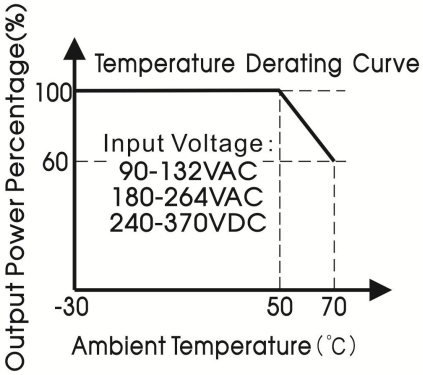
In addition, the power supply can be used in the following terminals which do not need to meet EN61000-3-2;

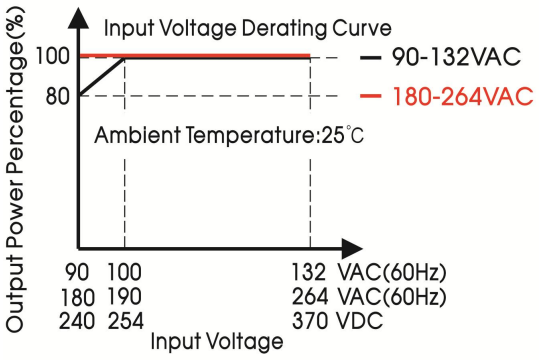
(1) Professional equipment with total fixed input power greater than 1000W;

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

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

Characteristic Curve

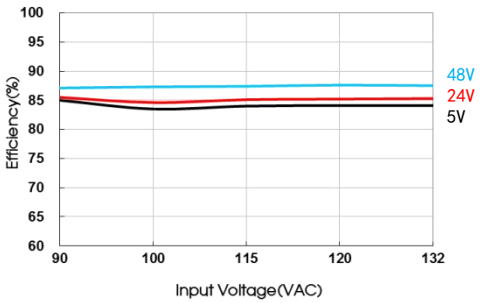




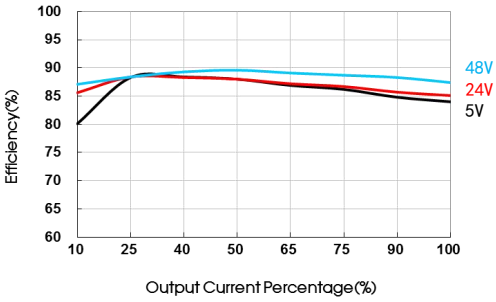
Note: 1. With an AC input voltage between 90-100VAC and a DC input between 180-190VDC the output power must be derated as per the temperature derating curves;

2. This product is suitable for applications using natural air cooling.

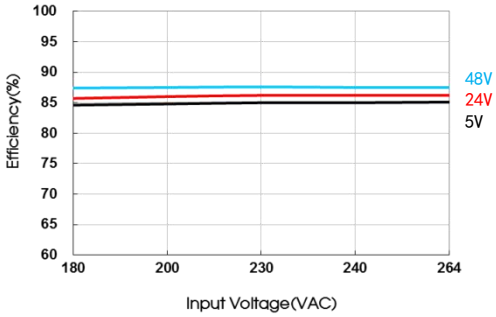
Efficiency Vs Input Voltage (Full Load)



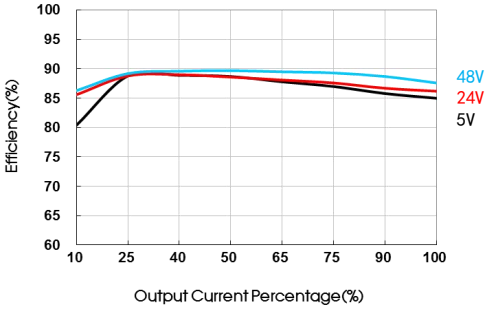
Efficiency Vs Output Load(Vin=115VAC)



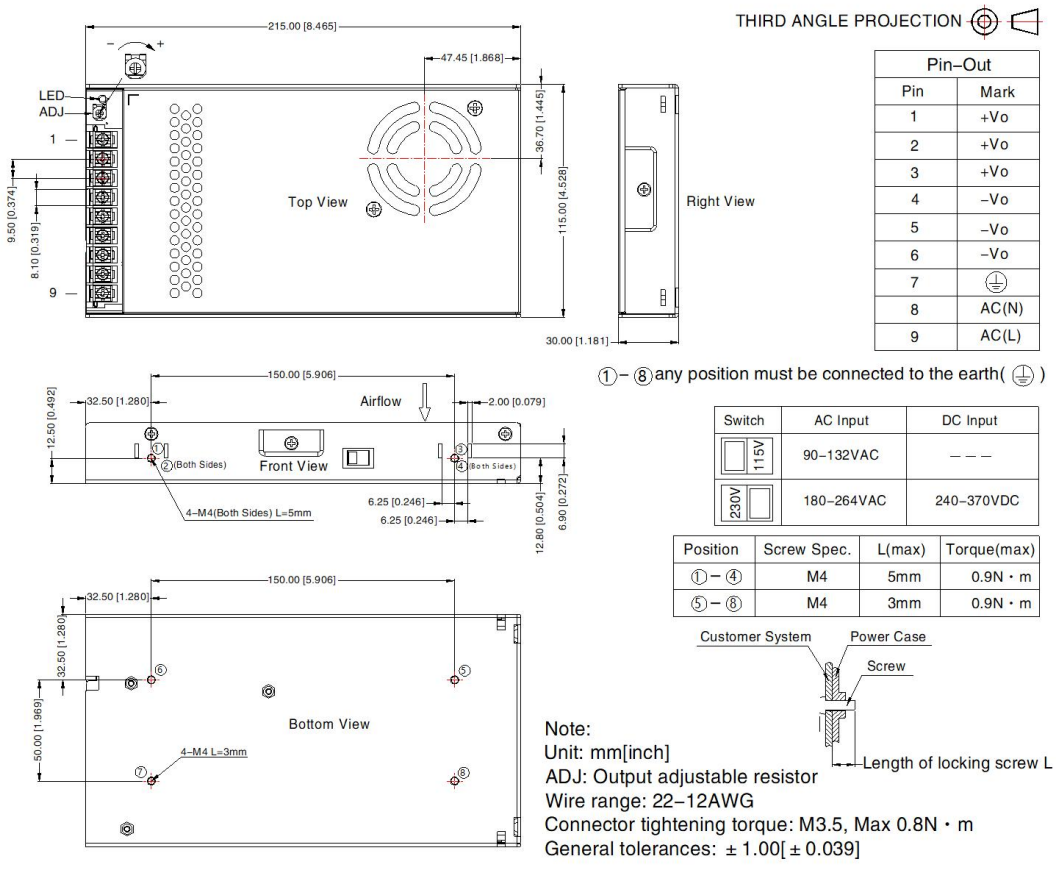
Efficiency Vs Input Voltage (Full Load)



Efficiency Vs Output Load(Vin=230VAC)



Dimensions and Recommended Layout



Pin-Out

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

①- ⑧any position must be connected to the earth(⏚)

Switch	AC Input	DC Input
115V	90-132VAC	- - -
230V	180-264VAC	240-370VDC

Position	Screw Spec.	L(max)	Torque(max)
①- ④	M4	5mm	0.9N・m
⑤- ⑧	M4	3mm	0.9N・m

Note:
Unit: mm[inch]
ADJ: Output adjustable resistor
Wire range: 22-12AWG
Connector tightening torque: M3.5, Max 0.8N・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 ambient 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 the earth (⏚) 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 final equipment. All EMC tests should be confirmed with the final equipment.
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.