DESCRIPTIONS 100W, AC-DC Converter



RoHS

UL62368-1 EN62368-1 EN60335-1 EN61558-1 BS EN62368-1 IEC61558-1 IEC60335-1

FEATURES

- Universal 85 - 264VAC or 120 - 370VDC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -30℃ to +70℃
- Low standby power consumption, high efficiency
- High I/O isolation test voltage up to 4000VAC
- Low ripple & noise
- 150% peak power lasts 5S
- Output short circuit, over-current, over-voltage protection
- OVC III (designed to meet EN62477)
- 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.	Capacitive Load (uF) Max.
UL/EN/BS EN/IEC	AE100-2B-05	90	5V/18A	4.5-5.5	85	10000
	AE100-2B-12	102	12V/8.5A	10.2-13.8	86.5	6800
	AE100-2B-15	105	15V/7.0A	13.5-18	86.5	3300
	AE100-2B-24	108	24V/4.5A	21.6-28.8	89.5	2200
	AE100-2B-36	100.8	36V/2.8A	32.4-39.6	89.5	1000
	AE100-2B-48	110.4	48V/2.3A	43.2-52.8	90.5	470

Note: 1. *Use suffix "Q" for conformal coating and suffix "QQ" for double side conformal coating.
2. If the terminal cover is required, please order "CPJ-033" 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		85	--	264	VAC
		DC input		120	--	370	VDC
	Input Voltage Frequency			47	--	63	Hz
	Input Current	115VAC		--	--	3	A
		230VAC		--	--	1.5	
	Inrush Current	115VAC	Cold start	--	35	--	
		230VAC		--	65	--	
	Leakage Current	240VAC		< 0.75mA			
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range	5V	--	±2	--	%
			12V/15V/24V/36V/48V	--	±1	--	
	Line Regulation	Rated load		--	±0.5	--	
	Load Regulation	0% - 100% load	5V	--	±1	--	
			12V/15V/24V/36V/48V	--	±0.5	--	
	Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V	--	100	--	mV
			12V/15V	--	120	--	
			24V	--	150	--	
			36V/48V	--	200	--	
	Temperature Coefficient			--	±0.03	--	%/℃
	Minimum Load			0	--	--	%
	Stand-by Power Consumption	230VAC		--	--	0.5	W
	Hold-up Time	115VAC		5	10	--	ms
		230VAC		45	55	--	
	Short Circuit Protection	5V, constant current for more than 5 seconds, turn off the output voltage, input restart and restore		≥150% Io, constant current for more than 5 seconds, turn off the output voltage, input restart and restore			
		12V/15V/24V/36V/48V, recovery time < 5s after the short circuit disappear.		Hiccup, continuous, self-recovery			
	Over-current Protection			≥110% Io, for more than 5 seconds, turn off the output, power restart after recovery			
	Over-voltage Protection	5V		≤7.5VDC		Hiccup, self-recover	
		12V		≤19.2VDC			
		15V		≤24VDC			
		24V		≤38.4VDC			
		36V		≤57.6VDC			
		48V		≤60VDC			

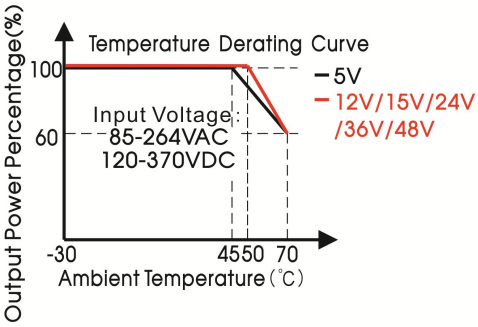
General Specifications	Isolation	Input - ⏚	Electric strength test for 1min., leakage current <3mA	24V/36V	2000	--	--	VAC
		Input - output	Electric strength test for 1min., leakage current <5mA		4000	--	--	
		Output - ⏚	Electric strength test for 1min., leakage current <5mA		1250	--	--	
		Input - ⏚	Electric strength test for 1min., leakage current <10mA	5V/12V/15V/48V	2000	--	--	
		Input - output			4000	--	--	
		Output - ⏚			1250	--	--	
	Insulation Resistance	Input - ⏚	At 500VDC		100	--	--	MΩ
		Input - output			100	--	--	
		Output - ⏚			100	--	--	
	Operating Temperature				-30	--	+70	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity		Non-condensing		10	--	95	%RH
	Operating Humidity				20	--	90	
	Switching Frequency				--	65	--	kHz
	Power Derating	Operating temperature derating	5V output	+45℃ to +70℃	1.6	--	--	%/℃
			Other output	+50℃ to +70℃	2.0	--	--	
		Input voltage derating	85VAC-115VAC		0.67	--	--	%/VAC
	Safety Class				CLASS I			
	MTBF				MIL-HDBK-217F@25℃ >30,0000 h			
	Warranty		Ambient temperature: <45℃		3 years			
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)					
	Dimension		129.00 x 97.00 x 30.00mm					
	Weight		325g (Typ.)		5V			
			305g (Typ.)		12V/15V/24V/36V/48V			
	Cooling Method		Free air convection					

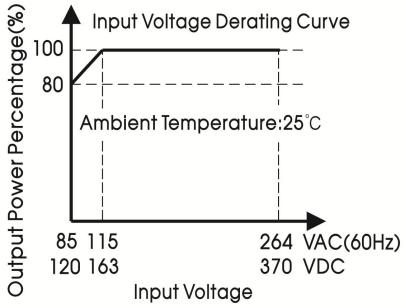
Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32/EN55032 CLASS B	
		RE	CISPR32/EN55032 CLASS B	
		Harmonic current	IEC/EN61000-3-2 CLASS A	
	Immunity (EMS)	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 ±4KV	perf. Criteria A
		Surge	IEC/EN61000-4-5 line to line ±2KV/line to ground ±4KV	perf. Criteria A
		CS	IEC/EN61000-4-6 10 Vr.m.s	perf. Criteria A
		Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11 100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	Perf. Criteria B

Characteristic Curve

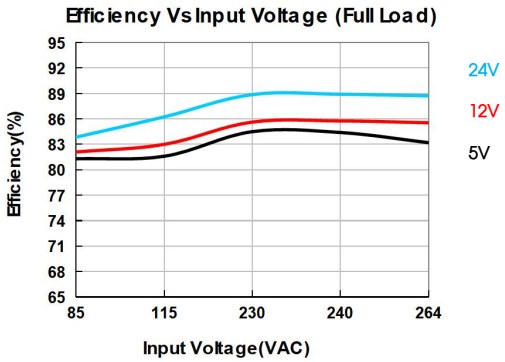


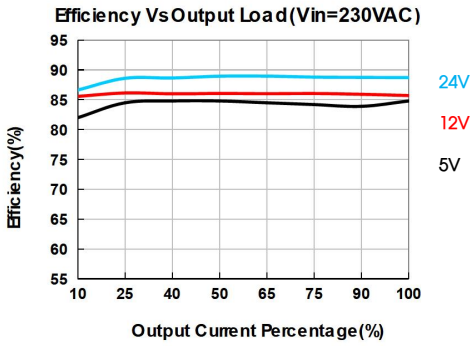


Note: 1. With an AC input voltage between 85-115 VAC and a DC input between 120-163 VDC the output power must be derated as per the temperature derating curves;

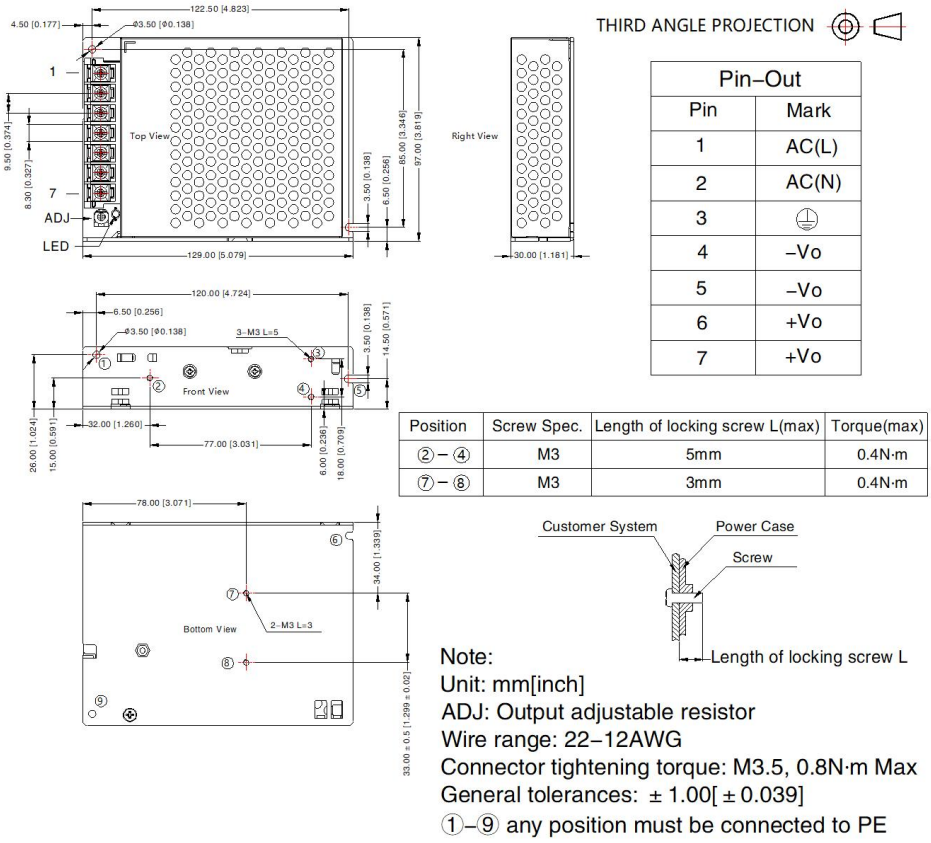
2. This product is suitable for applications using natural air cooling;

3. Product start at 50% output power under low temperature and low input voltage (-30℃, below 100VAC).





Dimensions and Recommended



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

Position	Screw Spec.	Length of locking screw L(max)	Torque(max)
②－④	M3	5mm	0.4N·m
⑦－⑧	M3	3mm	0.4N·m

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.
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.