DESCRIPTIONS 100W, AC-DC Converter



RoHS

3 Years Warranty

c UL us CE Report UK CA Report

UL62368-1 EN62368-1 BS EN62368-1

FEATURES

- Universal 85 - 305VAC or 100 - 430VDC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40℃ to +85℃
- Compact size, high power density
- Low standby power consumption, high efficiency
- High I/O isolation test voltage up to 4000VAC
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- OVC III (meet EN62477)
- Operating altitude up to 5000m

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)
EN/BS EN	AE100-05V2	90	5V/18A	4.75-5.75	87.0	10000
UL/EN/BS EN	AE100-12V2	102	12V/8.5A	11.4-13.8	90.0	6800
EN/BS EN	AE100-15V2	105	15V/7.0A	14.25-17.25	90.0	3300
UL/EN/BS EN	AE100-24V2	108	24V/4.5A	22.8-27.6	90.5	2200
EN/BS EN	AE100-36V2	100.8	36V/2.8A	34.2-41.4	90.5	1000
EN/BS EN	AE100-48V2	110.4	48V/2.3A	43.2-52.8	91.5	470
EN/BS EN	AE100-54V2	102.6	54V/1.9A	51.3-56.7	91.5	220

Note: 1. *Suffix "Q" for bottom conformal coating and "QQ" for both sides conformal coating;
2. *For products with terminal cover, 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	--	305	VAC
		DC input		120	--	430	VDC
	Input Voltage Frequency			47	--	63	Hz
	Input Current	115VAC		--	--	3	A
		230VAC		--	--	1.5	
	Inrush Current	115VAC	Cold start	--	35	--	
		230VAC		--	65	--	
	Contact Leakage Current	277VAC		< 0.75mA			
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range	5V	--	±2	--	%
			12V/15V/24V/36V/48V/54V	--	±1	--	
	Line Regulation	Rated load		--	±0.5	--	%
	Load Regulation	0% - 100% load	5V	--	±1	--	
			12V/15V/24V/36V/48V/54V	--	±0.5	--	
	Ripple & Noise*	230VAC, Rated load; 20MHz bandwidth (peak-to-peak value)	5V	--	150	--	mV
			12V/15V	--	120	--	
			24V		150		
			36V/48V/54V	--	200	--	
	Temperature Coefficient			--	±0.03	--	%/℃
	Minimum Load			0	--	--	%
	Stand-by Power Consumption	Room temperature, 230VAC input		--	--	0.5	W
	Hold-up Time	115VAC		--	10	--	ms
		230VAC		--	55	--	
	Short Circuit Protection	Recovery time <5s after the short circuit disappear.		Hiccup, continuous, self-recover			
	Over-current Protection			115% - 300% Io, Hiccup, self-recover			
	Over-voltage Protection	5V		≤7.5VDC (Clamp, self-recover)			
		12V		≤19.2VDC (Hiccup, self-recover)			
		15V		≤24VDC (Hiccup, self-recover)			
		24V		≤38.4VDC (Hiccup, self-recover)			
		36V		≤57.6VDC (Hiccup, self-recover)			
		48V		≤60VDC (Clamp, self-recover)			
		54V		≤70VDC (Hiccup, self-recover)			

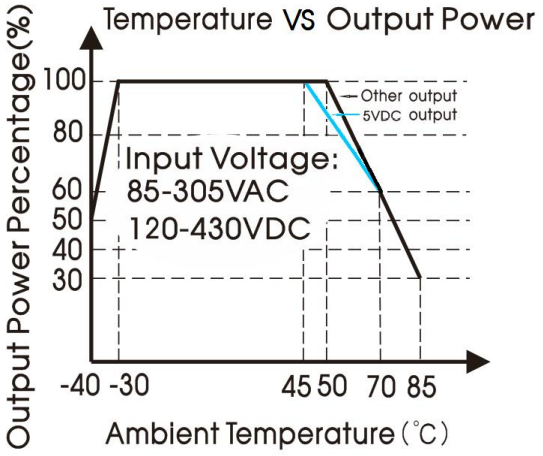
General Specifications	Isolation	Input - ⏚	Electric strength test for 1min., leakage current <10mA	2000	--	--	VAC
		Input - output	Electric strength test for 1min., leakage current <5mA	4000	--	--	
		Output - ⏚	Electric strength test for 1min., leakage current <5mA	1250	--	--	
	Insulation Resistance	Input - ⏚	Test voltage at 500VDC	100	--	--	MΩ
		Input - output		100	--	--	
		Output - ⏚		100	--	--	
	Operating Temperature			-40	--	+85	℃
	Storage Temperature			-40	--	+85	
	Operating Humidity		Non-condensing	20	--	90	%RH
	Storage Humidity			10	--	95	
	Switching Frequency			--	80	--	kHz
	Power Derating	+45℃ to +70℃	5V	1.60	--	--	%/℃
		+50℃ to +70℃	12V/15V/24V/36V/48V/54V	2.00	--	--	
		Operating temperature derating	+70℃ to +85℃	2.00			
			-40℃ to -30℃	5.00	--	--	
		Input voltage derating	85VAC - 100VAC	1.33	--	--	%/VAC
			277VAC - 305VAC	0.71	--	--	
	Safety Class			CLASS I			
	MTBF	MIL-HDBK-217F@25℃		≥300,000 h			
Mechanical Specifications	Case Material	Metal (AL5052, SGCC)					
	Dimensions	99.00 x 97.00 x 30.00 mm					
	Weight	260g (Typ.)					
	Cooling Method	Free air convection					

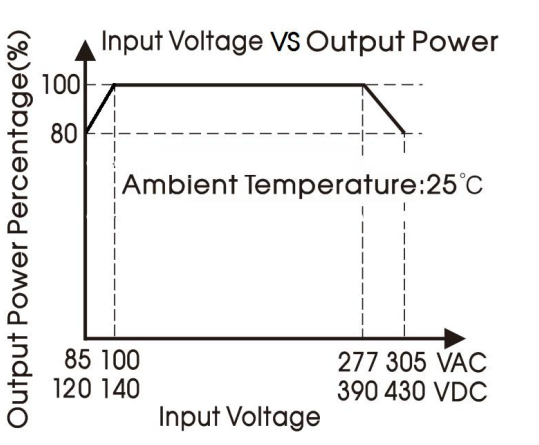
Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor,

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 PE ±4KV	perf. Criteria A
		CS	IEC/EN61000-4-6 10 Vr.m.s	perf. Criteria A
		PFMF	IEC/EN61000-4-8 30A/m	perf. Criteria A
		Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11 0%, 70%	perf. Criteria B

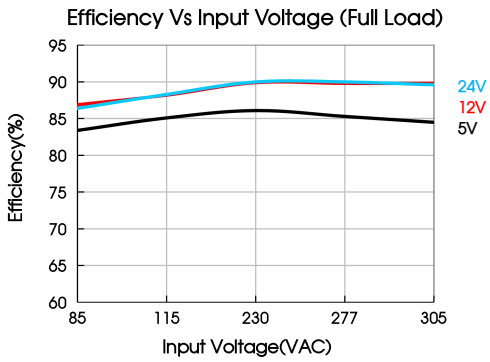
Characteristic Curve

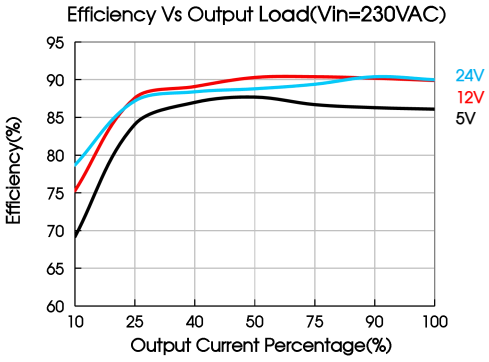




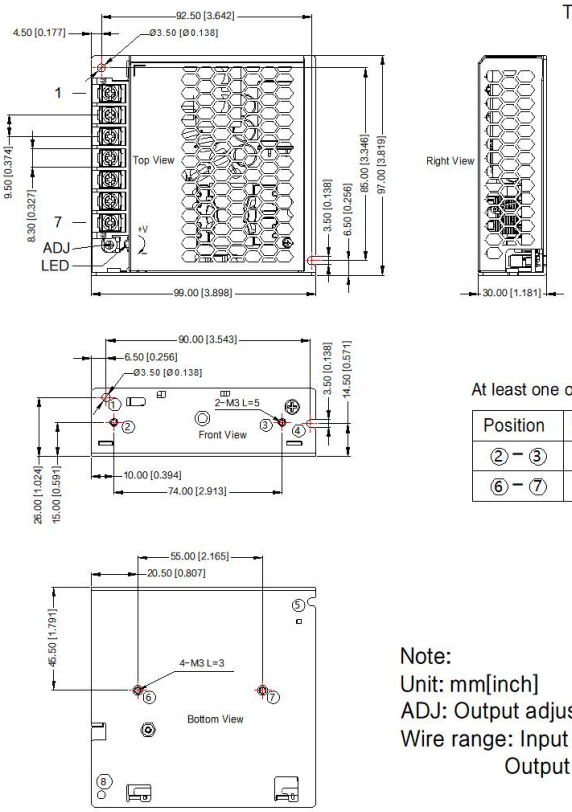
Note: 1. With an AC input voltage between 85 -100VAC/277-305VAC and a DC input between 120 -140VDC/390-430VDC the output power must be derated as per the temperature derating curves;

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





Dimensions and Recommended

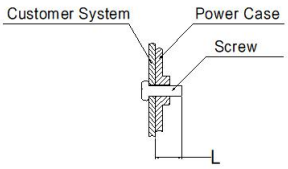


THIRD ANGLE PROJECTION

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

At least one of positions ① to ⑧must be connected to the earth(⏚)

Position	Screw Spec.	Length of locking screw L (max)	Recommended Torque
② – ③	M3	5mm	0.4 ± 0.04N · m
⑥ – ⑦	M3	3mm	0.4 ± 0.04N · m



Note:
Unit: mm[inch]
ADJ: Output adjustable resistor
Wire range: Input：20-10AWG(16-10AWG for pin3)
Output：12V, 15V：14-10AWG
24V, 36V：18-10AWG
48V, 54V：20-10AWG
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. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. The out case needs to be connected to the earth (⏚)of system when the terminal equipment in operating;
8. The output voltage can be adjusted by the ADJ, clockwise to increase;
9. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
10. 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.
11. 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.