DESCRIPTIONS

50W, AC-DC Converter



RoHS

CE Report EN62368-1

UKCA Report BS EN62368-1

FEATURES

- Universal 80 - 305VAC or 100 - 430VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40℃ to +85℃
- 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	AE50-05V2	50	5V/10A	4.75-5.75	86	8500
	AE50-12V2	50.4	12V/4.2A	11.4-13.8	87	2000
	AE50-15V2	51	15V/3.4A	14.25-17.25	87	1500
	AE50-24V2	52.8	24V/2.2A	22.8-27.6	89.5	1000
	AE50-36V2	52.2	36V/1.45A	34.2-41.4	90	470
	AE50-48V2	52.8	48V/1.1A	43.2-52.8	90.5	220
	AE50-54V2	50	54V/0.925A	48.6-59.4	90.5	100

Note: 1. *suffix "Q" for bottom conformal coating and "QQ" for both sides conformal coating;
2. For products with terminal cover, please order "CPJ-031" for self-installation;
3. The product picture is for reference only. For details, please refer to the actual product.

Specifications

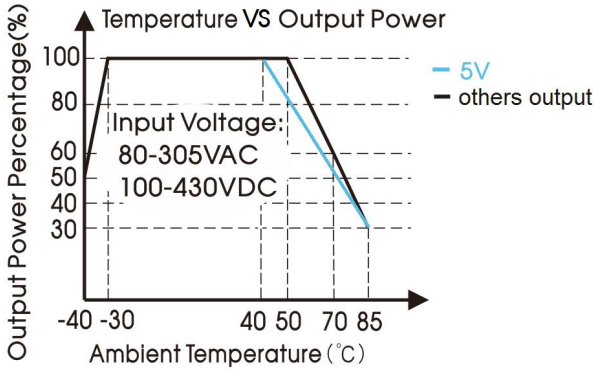
Product Specifications	Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range	AC input		80	--	305	VAC
		DC input		100	--	430	VDC
	Input Voltage Frequency			47	--	63	Hz
	Input Current	115VAC		--	--	1.2	A
		230VAC		--	--	0.8	
	Inrush Current	115VAC	Cold start	--	30	--	
		230VAC		--	60	--	
	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	--	65	150	mV
			12V/15V	--	65	150	
			24V	--	80	150	
			36V/48V/54V	--	120	240	
	Temperature Coefficient			--	±0.03	--	%/℃
	Minimum Load			0	--	--	%
	Stand-by Power Consumption	230VAC		--	--	0.5	W
	Hold-up Time	115VAC		--	6	--	ms
		230VAC		--	30	--	
	Short Circuit Protection	Recovery time <3s after the short circuit disappear.		Hiccup, continuous, self-recover			
	Over-current Protection	230VAC, Rated load		120% - 300% Io, hiccup, self-recover			
	Over-voltage Protection	5V		≤7.3VDC (Hiccup or clamp, self-recover)			
		12V		≤16.2VDC (Hiccup or clamp, self-recover)			
		15V		≤21.75VDC (Hiccup or clamp, self-recover)			
		24V		≤33.6VDC (Hiccup or clamp, self-recover)			
		36V		≤48.6VDC(Hiccup or clamp, self-recover)			
		48V		≤60.0VDC(Hiccup or clamp, self-recover)			

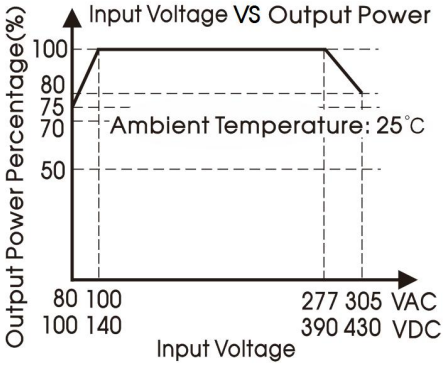
		54V		≤70.0VDC (Hiccup or clamp, self-recover)			
General Specifications	Isolation	Input - ⏚	Electric strength test for 1min., leakage current <5mA	2000	--	--	VAC
		Input - output		4000	--	--	
		Output - ⏚		1250	--	--	
	Insulation Resistance	Input - ⏚	At 500VDC	100	--	--	MΩ
		Input - output		100	--	--	
		Output - ⏚		100	--	--	
	Operating Temperature			-40	--	+85	℃
	Storage Temperature			-40	--	+85	
	Operating Humidity		Non-condensing	20	--	90	%RH
	Storage Humidity			--	--	95	
	Switching Frequency			--	90	--	kHz
	Power Derating	5V	-40℃ to -30℃	5	--	--	%/℃
			+40℃ to +70℃	1.33	--	--	
			+70℃ to +85℃	2	--	--	
		Others	-40℃ to -30℃	5	--	--	
			+50℃ to +70℃	2	--	--	
			+70℃ to +85℃	2	--	--	
		80VAC - 100VAC		1.25	--	--	%/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 65.00 x 30.00 mm					
	Weight	150g (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		
	Immunity (EMS)	ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV		perf. Criteria A
		RS	IEC/EN 61000-4-3 10V/m		perf. Criteria A
		EFT	IEC/EN 61000-4-4 ±4KV		perf. Criteria A
		Surge	IEC/EN 61000-4-5 line to line ±2KV/line to PE ±4KV		perf. Criteria A
		CS	IEC/EN61000-4-6 10Vr.m.s		perf. Criteria A
		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: *Un is the maximum input nominal voltage.					

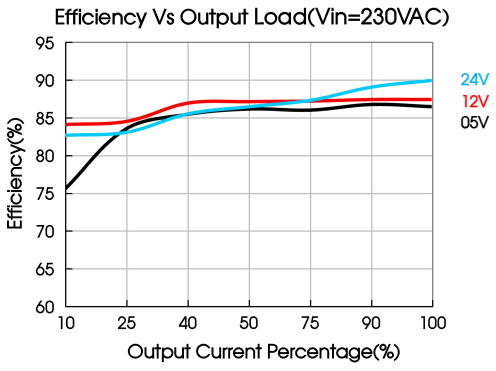
Characteristic Curve

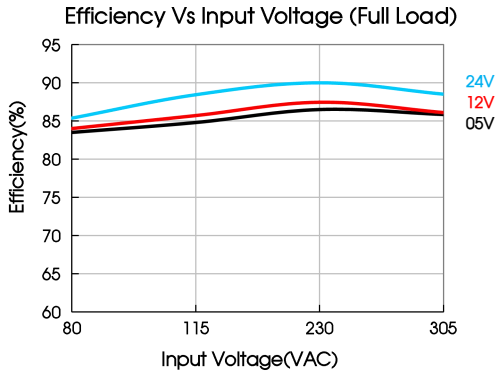




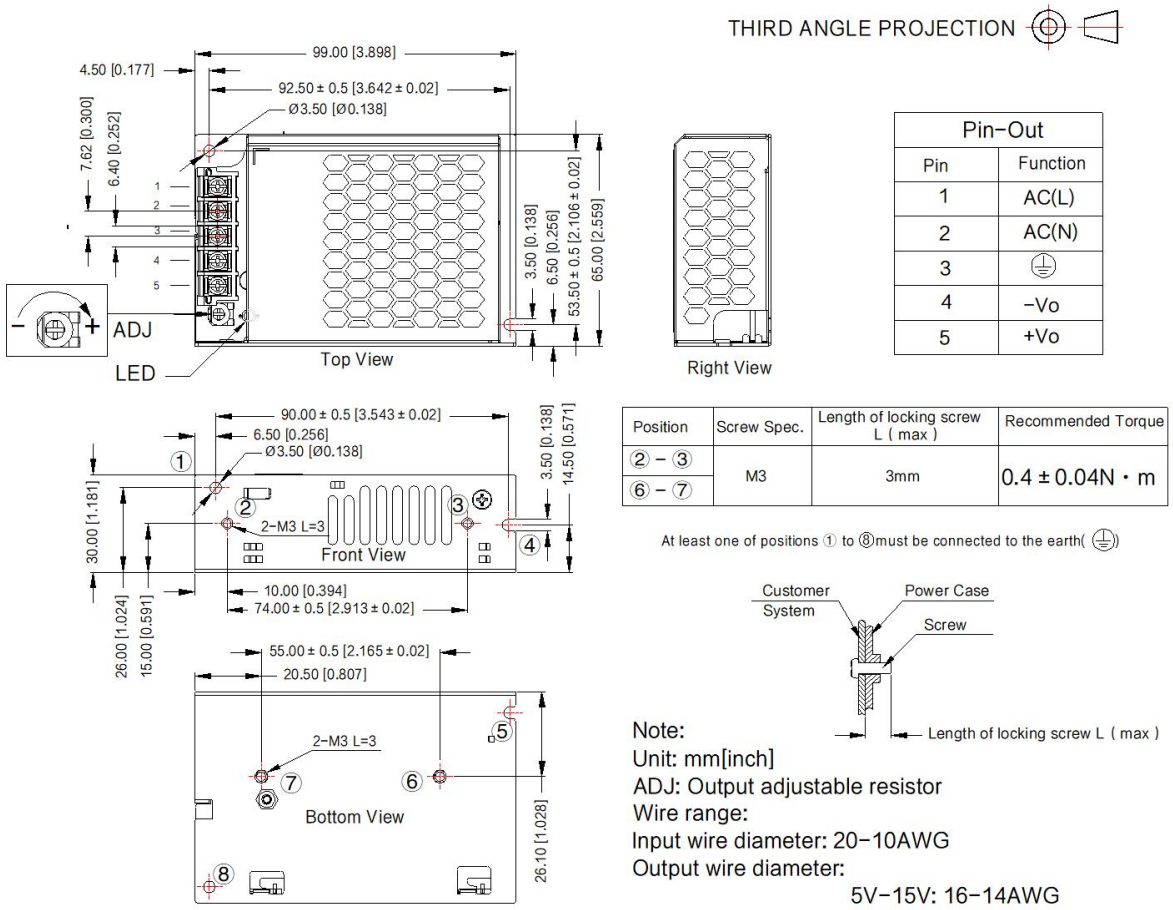
Note: 1. With an AC input voltage between 80 -100VAC /277-305VAC and a DC input between 100 -140VDC/390-430VDC the output power must be derated as per the temperature derating curves;

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





Dimensions and Recommended



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

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

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

Note:
Unit: mm[inch]
ADJ: Output adjustable resistor
Wire range:
Input wire diameter: 20-10AWG
Output wire diameter:
5V-15V: 16-14AWG
24V-54V:20-16AWG
Tightening torque: M3，0.4 ± 0.04N · 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.