DESCRIPTIONS

50W, AC-DC Converter



RoHS

CE Report EN62368-1

UKCA Report BS EN62368-1

FEATURES

- Universal 85 - 264VAC or 120 - 370VDC Input voltage
- Operating ambient temperature range: -30℃ to +70℃
- High efficiency, high reliability and long life
- LED indicator for power on
- Output short circuit, over-current, over-voltage protection
- High I/O isolation test voltage up to 3000VAC
- Safety according to IEC/UL62368, EN60335, GB4943
- Emissions compliant to CISPR32/EN55032 CLASS B
- Withstand 5G vibration test
- Operating altitude up to 5000m

APPLICATIONS

- Industrial
- Civil
- Smart home
- Building equipment application

Selection Guide

Certification	Part No.	Output Power	Nominal Output Voltage and Current(Vo/Io)		Working Current Range*		Efficiency at 230VAC (%)	Max. Capacitive Load (μF)	
			Vo1/Io1	Vo2/Io2	Io1	Io2	Typ.	Vo1	Vo2
EN/BS EN	AE50-2A-12	50.4W	+12VDC/2.1A	-12VDC/2.1A	0.3-3.0A	0.2-2.5A	83	2200	2000

Note: 1.*Working current range: If any one of the 2 outputs arrive at the maximum current, the total output power cannot exceed the rated power and working time < 3s.

2. 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 Frequency				47	--	63	Hz
	Input Current		115VAC		--	--	1.3	A
			230VAC		--	--	0.8	
	Inrush Current		115VAC	Cold start	--	30	--	
			230VAC		--	50	--	
	Contact Leakage Current		240VAC		< 2.0mA			
	Hot Plug				Unavailable			
Output Specifications	Output Voltage Accuracy		Full load range	Vo1	--	±2.0	--	%
				Vo2	--	±8.0	--	
	Line Regulation		Full load	Vo1	--	±0.5	--	
				Vo2	--	±1.5	--	
	Load Regulation		10% - 100% load (Balanced load)	Vo1	--	±1.0	--	
				Vo2	--	±5.0	--	
	Ripple & Noise*		20MHz bandwidth (peak-peak value)	Vo1	--	120	--	mV
				Vo2	--	120	--	
	Temperature Coefficient		Vo1		--	±0.03	--	%/℃
	Switching Delay Time		Rated input voltage		--	--	3.0	s
	Output Voltage Rise Time		115/230VAC		--	--	50	ms
	Hold-up Time		115VAC		5	--	--	
			230VAC		30	--	--	
	Minimum Load				Refer to the working current range			
	Short Circuit Protection*		Recovery time <5s after the short circuit disappear		Hiccup, continuous, self-recover			
	Over-current Protection		Dual output with balanced load		110%≤ Io≤ 230%, hiccup,self-recover			
	Over-voltage Protection				13.8≤Vo1≤16.2VDC (Output clamp,self-recover)			
General Specifications	Isolation Voltage	Input - output	Electric strength test for 1min., leakage current <10mA		3000	--	--	VAC
		Input - ⏚			2000	--	--	
		output - ⏚			500	--	--	
	Insulation Resistance	Input - output	Testing voltage: 500VDC		100	--	--	MΩ
		Input - ⏚			100	--	--	
		output - ⏚			100	--	--	
	Operating Temperature		Refer to derating curve		-30	--	+70	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity		Non-condensing		10	--	95	%RH

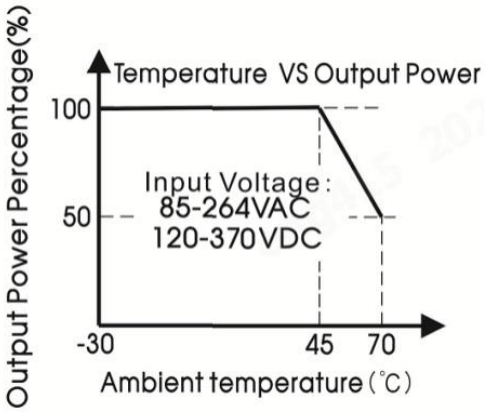
	Operating Humidity			20	--	90	
	Power Derating	Input voltage derating	85VAC - 115VAC	0.66	--	--	%/VAC
			115VAC - 264VAC	0	--	--	
			120VDC - 160VDC	0.5	--	--	%/VDC
			160VDC - 370VDC	0	--	--	
		Operating temperature derating	-30℃ to +45℃	0	--	--	%/℃
			+45℃ to +70℃	2.0	--	--	
	Safety Class			CLASS I			
	MTBF		MIL-HDBK-217F@25℃	> 300,000 h			
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)				
	Dimension		99.00mm x 97.00mm x 30.00mm				
	Weight		235g (Typ.)				
	Cooling Method		Free air convection				

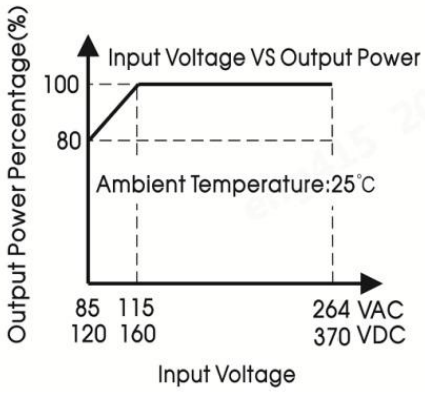
Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

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 ±2KV	perf. Criteria A
		Surge	IEC/EN 61000-4-5 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	IEC/EN61000-4-11 0%, 70%	perf. Criteria B

Characteristic Curve

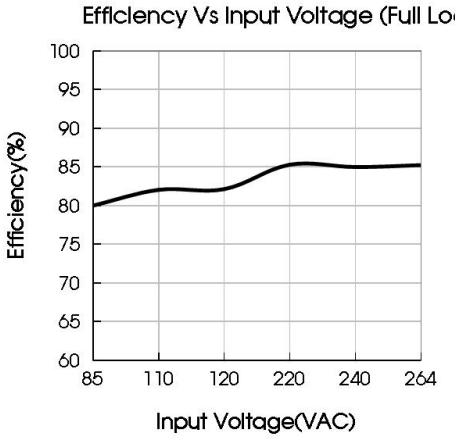


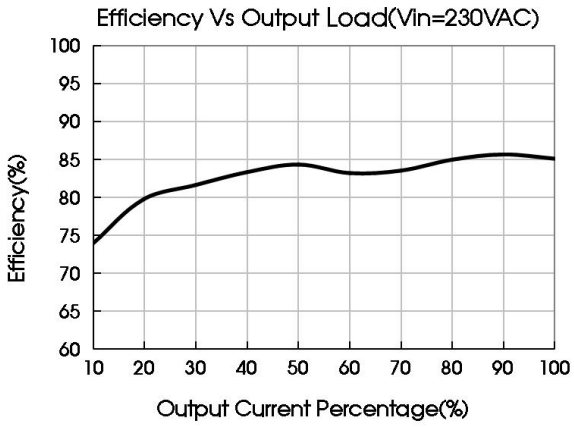


Note: 1. With an AC input voltage between 85 -115VAC and a DC input between 120-160VDC the output power must be derated as per the temperature derating

curves;

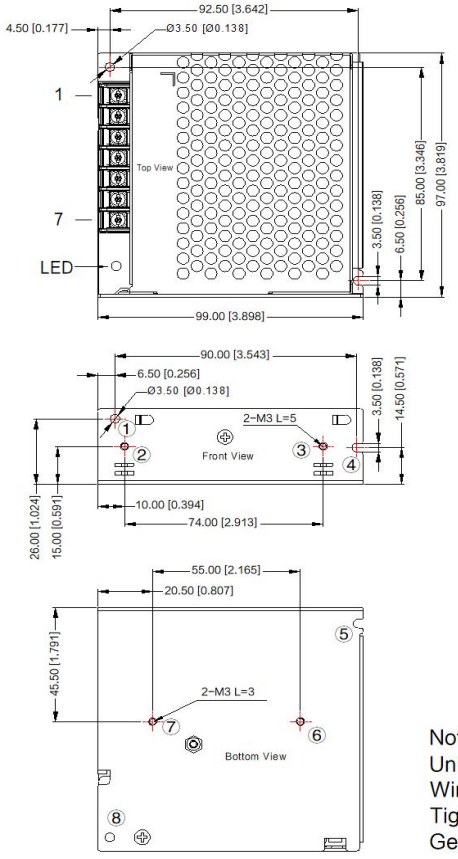
2. This product is suitable for applications using natural air cooling.





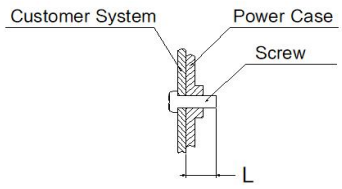
Dimensions and Recommended

THIRD ANGLE PROJECTION



Pin-Out	
Pin	Mark
1	AC(L)
2	AC(N)
3	⏚
4	NC
5	Vo2
6	COM
7	Vo1

Position	Screw Spec.	L(max)	Torque(max)
②－③	M3	5mm	0.4N・m ± 10%
⑥－⑦	M3	4mm	0.4N・m ± 10%



Note:
Unit: mm[inch]
Wire range: 22-14AWG
Tightening torque: M3，0.5N.m ± 10%
General tolerances: ± 1.00[± 0.039]
①-⑧any position must be connected to PE

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. 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 PE (⏚) of system when the terminal equipment in operating;
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.