

## DESCRIPTIONS

50W, AC/DC Enclosed Switching Power Supply



UL62368-1    EN62368-1    BS EN62368-1

## FEATURES

- Universal 85 - 264VAC or 120 - 370VDC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -30 °C to +70°C
- 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 (designed to meet EN62477)
- Operating altitude up to 5000m

## APPLICATIONS

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

## 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	AE50-2B-05	50	5V/10A	4.5-5.5	86	8500
	AE50-2B-12	50.4	12V/4.2A	10.2-13.8	87	2000
	AE50-2B-15	51	15V/3.4A	13.5-18	88	1500
	AE50-2B-24	52.8	24V/2.2A	21.6-28.8	89	1000
	AE50-2B-36	52.2	36V/1.45A	32.4-39.6	89	800
	AE50-2B-48	52.8	48V/1.1A	43.2-52.8	90	680

Note: \*1. Use suffix "Q" for conformal coating.

2.If the terminal cover is required, please order "CPJ-032" for self-installation.

3.The product picture is for reference only. For details, please refer to the actual product.

## Specifications

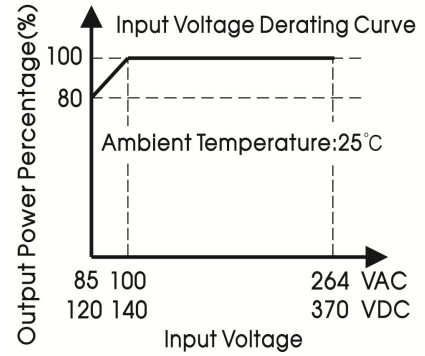
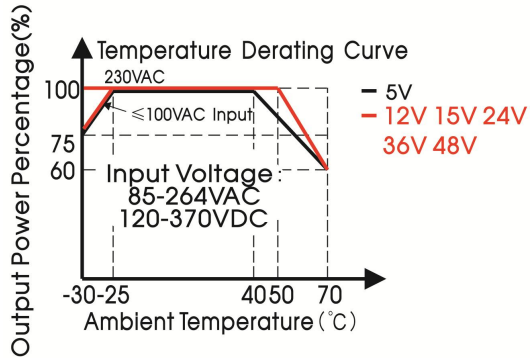
Product Specifications	Item	Operating Conditions	Min.	Typ.	Max.	Unit	
Input Specifications	Input Voltage Range	AC input	85	--	264	VAC	
		DC input	120	--	370	VDC	
	Input Voltage Frequency		47	--	63	Hz	
	Input Current	115VAC	--	--	1.2	A	
		230VAC	--	--	0.8		
	Inrush Current	115VAC	Cold start	--	30		--
		230VAC		--	50		--
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	Full load	--	±0.5	--		
	Load Regulation	0% - 100% load	5V	--	±1	--	
			12V/15V/24V/36V/48V	--	±0.5	--	
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V	--	80	--	mV
			12V/15V	--	120	--	
			24V	--	150	--	
			36V/48V	--	200	--	
	Temperature Coefficient		--	±0.03	--	%/°C	
	Minimum Load		0	--	--	%	
	Stand-by Power Consumption	230VAC	--	--	0.3	W	
	Hold-up Time	115VAC	8	--	--	ms	
		230VAC	30	--	--		
Short Circuit Protection	Recovery time <5s after the short circuit disappear.		Hiccup, continuous, self-recover				
Over-current Protection			110%-200% I <sub>o</sub> , self-recover				
Over-voltage Protection	5V		≤6.3VDC (Output voltage clamp or hiccup)				
	12V		≤16.2VDC (Output voltage clamp or hiccup)				
	15V		≤21.75VDC (Output voltage clamp or hiccup)				
	24V		≤33.6VDC (Output voltage clamp or hiccup)				
	36V		≤48.6VDC (Output voltage clamp or hiccup)				
	48V		≤60.0VDC (Output voltage clamp or hiccup)				
General Specifications	Isolation	Input - ⊕	Electric strength test for 1min., leakage current <10mA	2000	--	--	VAC
		Input - output		4000	--	--	
		Output - ⊕		1250	--	--	

General Specifications	Insulation Resistance	Input - ⊕	At 500VDC	100	--	--	MΩ		
		Input - output		100	--	--			
		Output - ⊕		100	--	--			
	Operating Temperature			-30	--	+70	°C		
	Storage Temperature			-40	--	+85			
	Storage Humidity		Non-condensing	--	--	95	%RH		
	Operating Humidity		Non-condensing	20	--	90			
	Switching Frequency			--	65	--	KHz		
	Power Derating		-30°C to -25°C	85-100VAC	5	--	--	% / °C	
			5V	+40°C to +70°C	85-165VAC	1.33	--		--
				+50°C to +70°C	165-264VAC	2	--		--
			Other output	+50 to +70°C	2	--	--		
			85VAC - 100VAC		1.33	--	--	%/VAC	
Safety Class			CLASS I						
MTBF		MIL-HDBK-217F@25°C	≥300,000 h						
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)						
	Dimension		99.00 x 82.00 x 30.00 mm						
	Weight		180g (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)

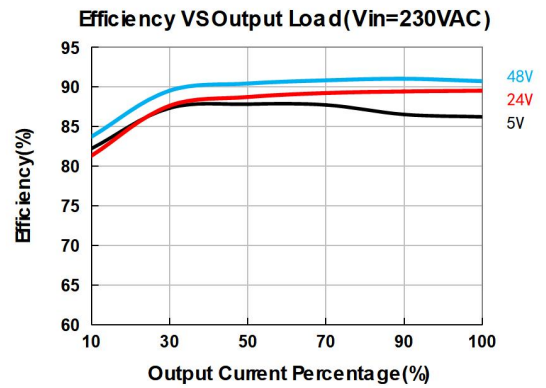
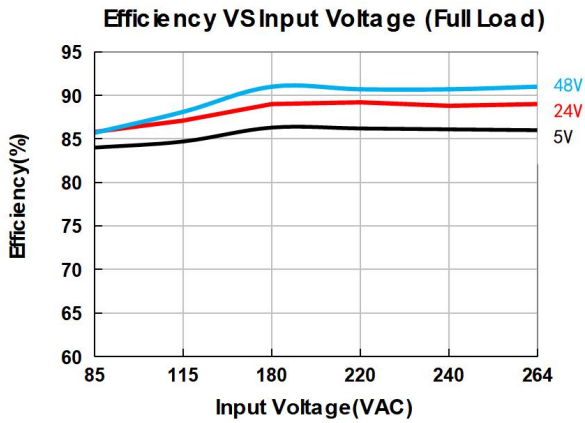
Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32/EN55032 CLASS B		
		RE	CISPR32/EN55032 CLASS B		
		Harmonic current	IEC/EN61000-3-2 CLASS A		
	Immunity (EMS)	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	perf. Criteria A
		RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
		EFT	IEC/EN61000-4-4	±2KV	perf. Criteria A
		Surge	IEC/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
		MS	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

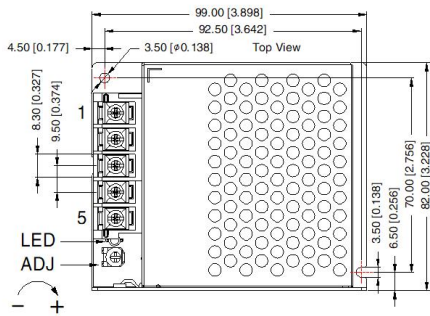


Note: 1. With an AC input voltage between 85 - 100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;

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

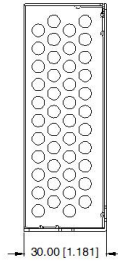


## Dimensions and Recommended

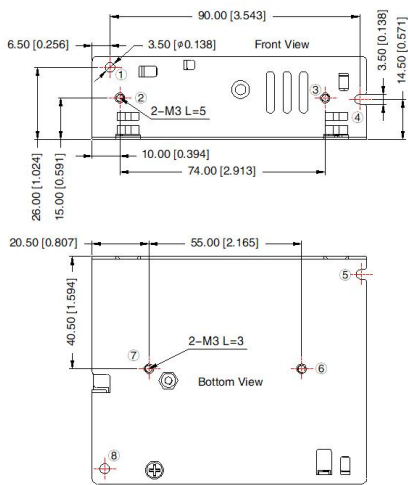


THIRD ANGLE PROJECTION

Right View

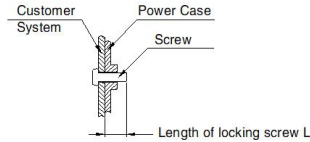


Pin-Out	
Pin	Mark
1	AC(L)
2	AC(N)
3	
4	-Vo
5	+Vo



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

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



Note:  
 Unit: mm[inch]  
 ADJ: Output adjustable resistor  
 Wire range: 22-12AWG  
 Connector tightening torque: M3.5, Max 0.8N · m  
 General tolerances:  $\pm 1.00$  [  $\pm 0.039$  ]

- Note:
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of  $T_a=25^\circ\text{C}$ , humidity  $<75\%$  RH with nominal input voltage and rated output load;
  - The room temperature derating of  $5^\circ\text{C}/1000\text{m}$  is needed for operating altitude greater than 2000m;
  - All index testing methods in this datasheet are based on our company corporate standards;
  - 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;
  - We can provide product customization service, please contact our technicians directly for specific information;
  - Products are related to laws and regulations: see "Features" and "EMC";
  - The out case needs to be connected to the earth ( ) of system when the terminal equipment in operating;
  - The output voltage can be adjusted by the ADJ, clockwise to increase;
  - Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
  - 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. Please consult our FAE for EMC test operation instructions.