DESCRIPTIONS

45W, AC/DC Open Frame Power Supply

RoHS

3 Years Warranty

CE Report EN62368-1

UKCA Report BS EN62368-1

FEATURES

- Universal 85-264VAC or 100-370VDC input voltage
- Input withstand 305VAC/5s
- Accepts AC or DC input (dual-use of same terminal)
- 4 × 2 inch
- Operating ambient temperature range: -40℃ to +85℃ (-30℃ full load)
- High I/O isolation voltage up to 4000VAC
- Output voltage adjustable
- Output short circuit, over-current, over-voltage protection
- Surge immunity meets Level 4
- Installing in system of Safety Class I is available
- Design refer to UL/IEC62368, EN60335

APPLICATIONS

- Industry
- Handle official business
- Civil

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 230VAC (%) Typ.	Capacitive Load (μF) Max.
EN/BS EN	AO45-2B-03M	26.4	3.3V/8A	2.97-3.63	80	20000
	AO45-2B-05M	40	5V/8A	4.5-5.5	82	20000
	AO45-2B-12M	45	12V/3.75A	10.8-13.5	87	8000
	AO45-2B-15M	45	15V/3A	13.5-16.5	88	7000
	AO45-2B-24M	45.6	24V/1.9A	21.6-27	89	1500
	AO45-2B-36M	45	36V/1.25A	32.4-39.6	90	1000
	AO45-2B-48M	48	48V/1A	43.2-52.8	90	1000

Note: 1. *The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

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

Specifications

Product characteristics	Item		Operating Conditions		Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range		AC input		85	--	264	VAC
			DC input		100	--	370	VDC
	Input Voltage Frequency				47	--	63	Hz
	Input Current		115VAC		--	--	1.8	A
			230VAC		--	--	1	
	Inrush Current		115VAC	Cold start	--	30	--	
			230VAC		--	60	--	
	Input Temporary Over-voltage		Rated load output, 305VAC input		5s/time, interval 10s, product without damaging			
	Hot Plug				Unavailable			
Output Specifications	Output Voltage Accuracy		Full load range	3.3V	--	±3	--	%
				5V/12V/15V	--	±2	--	
				24V/36V/48V	--	±1	--	
	Line Regulation		Rated load		--	±0.5	--	
	Load Regulation		230VAC	3.3V	--	±2	--	
				Other output	--	±1	--	
	Ripple & Noise*		20MHz bandwidth (peak-to-peak value)	3.3V/5V	--	80	100	mV
				12V/15V	--	100	150	
				24V/36V/48V	--	150	240	
	Stand-by Power Consumption		Room temperature, 230VAC input		--	0.3	0.5	W
	Temperature Coefficient		0℃ to +50℃		--	±0.03	--	%/℃
	Short Circuit Protection				Hiccup, continuous, self-recovery			
	Over-current Protection		Normal temperature, high temperature		115% - 300% Io, self-recover			
			Low temperature		≥115% Io, self-recover			
	Over-voltage Protection		3.3V		≤5.5V			Output voltage clamp or hiccup
			5V		≤7V			
			12V		≤16V			
			15V		≤22V			
			24V		≤32.4V			
			36V		≤46.8V			
			48V		≤63V			
	Minimum Load				0	--	--	%
	Hold-up Time		115VAC input		--	16	--	ms
			230VAC input		--	50	--	
General Specifications	Isolation	Input - output	Electric Strength Test for 1min., leakage current <5mA		4000	--	--	VAC
		Input - ⏚			2000	--	--	
		Output - ⏚			500	--	--	

General Specifications	Insulation Resistance	Input - output	Test voltage: 500VDC		100	--	--	MΩ
		Input - ⏚						
		Output - ⏚						
	Operating Temperature				-40	--	+85	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity		Non-condensing		--	--	95	%RH
	Operating Humidity				--	--	90	
	Altitude**				--	--	4000	m
	Output Power Derating		Operating temperature derating	-40℃ to -30℃	6.5	--	--	%/℃
				+50℃ to +70℃	2.5	--	--	
				+70℃ to +85℃	1	--	--	
			Input voltage derating	85VAC - 100VAC	1	--	--	
	Leakage Current		240VAC		<0.5mA RMS			
	Safety Class				CLASS I			
	MTBF		MIL-HDBK-217F@25℃		≥300,000 h			
Mechanical Specifications	Dimension		101.60 x 50.80 x 27.50mm					
	Weight		98g (Typ.)					
	Cooling Method		Air cooling					

Note: *The "Tip and barrel method" is used for ripple and noise test, with a 0.1uf & 47uf parallel capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.

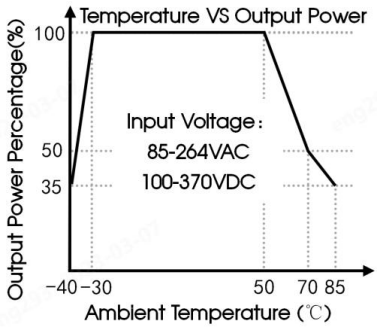
**Note: *For operation of altitude between 2000-4000m.

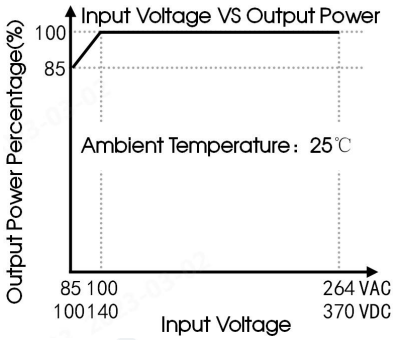
Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32/EN55032	CLASS B	
		RE	CISPR32/EN55032	CLASS B	
		Harmonic current	IEC/EN61000-3-2	CLASS A	
	Immunity	ESD	IEC/EN61000-4-2	Contact ±4KV/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	10Vr.m.s	Perf. Criteria A
		PFMF	IEC/EN61000-4-8	30A/m	Perf. Criteria A
		Voltage dips, short interruption and voltage variations	IEC/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods (50Hz), 30 periods (60Hz)	Perf. Criteria B

Note: All EMC performance are been tested on a metal plate with a thickness of 1mm and a length of 360mm × 360mm.

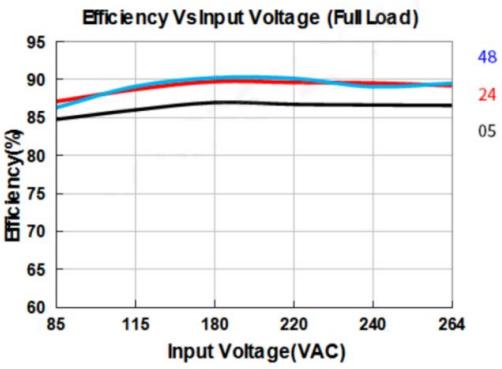
Product Characteristic Curve

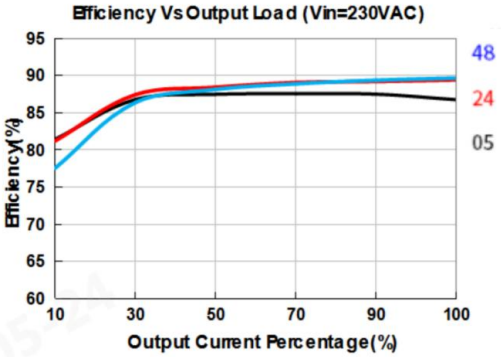




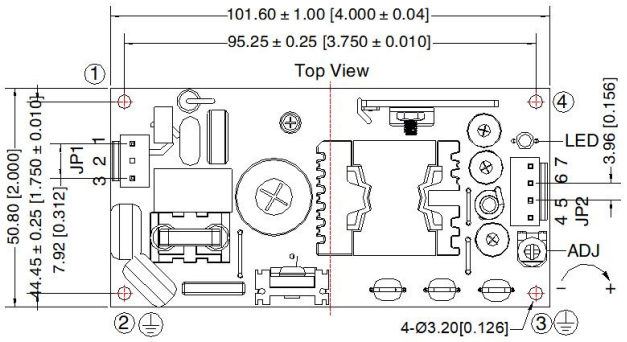
Note: 1.With an AC input voltage between 85-100VAC and a DC input between 100-140VDC the output power must be derated as per the temperature derating curves;

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





Design Reference



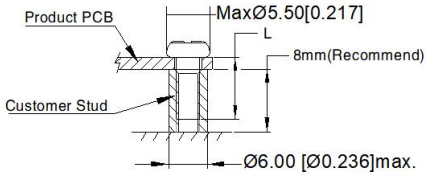
Note:
Unit: mm[inch]
General tolerances: ±0.50[±0.020]
The layout of the device is for reference only,
please refer to the actual product

THIRD ANGLE PROJECTION

Pin–Out			
Connectors	Pin	Mark	Client Connectors
JP1	1	AC(L)	Housing: JST VHR–3N Contact: JST SVH–21T–P1.1 or equivalent
	2	No Pin	
	3	AC(N)	
JP2	4	–Vo	Housing: JST VHR–4N Contact: JST SVH–21T–P1.1 or equivalent
	5		
	6	+Vo	
	7		

②–③ must be connected to the earth(⏚)

Position	Screw Spec.	L(Recommend)	Torque(Max)
① – ④	M3	6mm	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 3.5℃/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 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. All EMC tests should be confirmed with the final equipment.