Description

120W, AC-DC Open Frame Power Supply



RoHS

CE Report EN62368-1

UK CA Report BS EN62368-1

c UL us UL62368-1

Features

- Universal 85-264VAC or 120-370VDC input voltage
- High power density, compact size: 4" × 2" × 1.26"
- Operating ambient temperature range: -30℃ to +70℃
- High I/O isolation test voltage up to 4000VAC
- Meets 5000m altitude requirements
- Extremely low leakage current < 100uA
- Stand-by power consumption < 0.3W
- Output short circuit, over-current, over-voltage, over-temperature protection
- Efficiency up to 91%
- Meets 2 x MOPP safety class
- Suitable for BF application
- Over-voltage class III (designed to meet EN61558-1)
- Installing in system of Safety Class I/II is available

Application

- Industrial Control
- LED
- Lamp control
- Power
- Security
- Comnicate
- Smart Home
- Medical treatment

Selection Guide

Certification	Part No.*	Cool Mode	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/UL	AOMU120-2B-12	Air cooling	84	12V/7A	11.4-12.6	89	6000
		10CFM	120	12V/10A			
EN/BS EN	AOMU120-2B-15	Air cooling	84	15V/5.6A	14.3-15.8	89	5000
		10CFM	120	15V/8A			
EN/BS EN	AOMU120-2B-24	Air cooling	84	24V/3.5A	22.8-25.2	90	3200
		10CFM	120	24V/5A			
EN/BS EN	AOMU120-2B-27	Air cooling	84	27V/3.11A	25.6-28.4	90	2400
		10CFM	120	27V/4.44A			
EN/BS EN	AOMU120-2B-36	Air cooling	84	36V/2.33 A	35.28-37.8	90	2000
		10CFM	120	36V/3.33A			
EN/BS EN	AOMU120-2B-48	Air cooling	84	48V/1.75A	45.6-50.4	91	1600
		10CFM	120	48V/2.5A			
EN/BS EN	AOMU120-2B-54	Air cooling	84	54V/1.56A	51.3-55.5	91	1300
		10CFM	120	54V/2.22A			

Notes: 1. *Under any conditions, the total power of the product should not exceed the rated power of 120w and the output current should not exceed the rated output current.

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

Characteristic

Product characteristics	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		--	--	3	A
		230VAC		--	--	1.5	
	Inrush Current	115VAC		--	--	30	
		230VAC		--	--	60	
	Leakage Current	264VAC	Normal operation	100uA Max.			
			Single fault	500uA Max.			
Output Specifications	Output Voltage Accuracy	0% - 100% load	12V/15V output	--	±2	--	%
			Other output	--	±1	--	
	Line Regulation	Rated load		--	±0.5	--	
	Load Regulation	230VAC		--	±1	--	
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V/15V output	--	100	150	mV
			Other output	--	120	200	
	Stand-by Power	12V/15V/24V output		--	0.25	0.3	W

	Consumption		Other output		--	0.30	0.5	
Output Specifications	Temperature Coefficient				--	±0.03	--	%/℃
	Short Circuit Protection				Hiccup, continuous, self-recover			
	Over-current Protection				≥115%Io, self-recover			
	Over-voltage Protection		12VDC output		≤16V	Output voltage clamp or hiccup		
			15VDC output		≤25V			
			24VDC output		≤32V			
			27VDC output		≤35V			
			36VDC output		≤50V			
			48VDC output		≤60V			
			54VDC output		≤60V			
	Over-temperature Protection				Output voltage turn off, re-power on to recovery after abnormal removed			
	Fan power		12V/24V/27V/36V/48V/54V		Offer output power of 12V/0.5A with output voltage accuracy ±15%			
			15V		Offer output power of 15V/0.4A with output voltage accuracy ±15%			
	Minim Load				0	--	--	%
	Hold-up Time		230VAC input		--	50	--	ms
General Specifications	Isolation	Input - output	Electric Strength Test for 1min., leakage current <5mA		4000	--	--	VAC
		Input - PE			2000	--	--	
		Output - PE			1500	--	--	
	Insulation Resistance	Input - output	500VDC		100	--	--	MΩ
		Input - PE						
		Output - PE						
	Isolation level	Input - output			2 × MOPP			
		Input - PE			1 × MOPP			
		Output - PE			1 × MOPP			
	Operating Temperature				-30	--	+70	℃
	Storage Temperature				-40	--	+85	
	Operating Humidity		Non-condensing		--	--	90	%RH
	Storage Humidity		Non-condensing		--	--	95	
	Altitude*				--	--	5000	m
	Power Derating		Air cooling	+45℃ to +70℃	12V/15V	1.2	--	--	%/℃
				+50℃ to +70℃	24V/27V/36V/48V/54V	1.5	--	--	
			10CFM	+50℃ to +70℃		3	--	--	
			85VAC - 115VAC			0.67	--	--	%/VAC
General	Safety distance		Clearance			7.60	--	--	mm

Specifications		Creepage	8.00	--	--	
	Safety Class		CLASS I (st be connected with PE)/ CLASS II			
	MTBF	MIL-HDBK-217F@25℃	> 300,000 h			
Mechanical Specifications	Dimension	101.60 x 50.80 x 32.00mm				
	Weight	162g (Typ.)				
	Cooling Method	Free air convection/10CFM				

Note:1. *The "Tip and barrel method" and "Twisted pair-wire method" are used for ripple and noise test, with a 0.1uf & 10uf parallel capacitor.

2.**For operation of altitude between 2000-5000m.

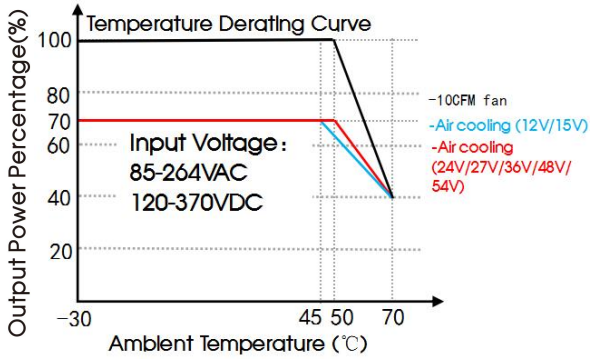
Electromagnetic Compatibility (EMC)

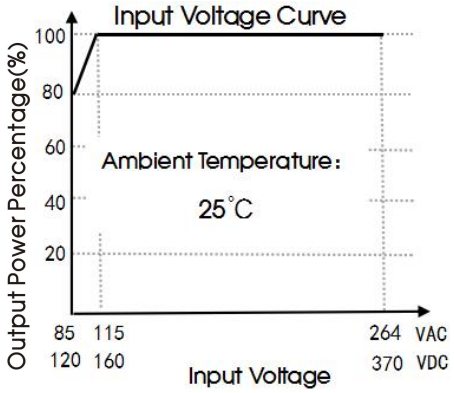
Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32/EN55032/EN55011 CLASS B	
		RE	CISPR32/EN55032/EN55011 CLASS B	
		Harmonic current	IEC/EN61000-3-2 CLASS A	
	Imnity	ESD	IEC/EN61000-4-2 Contact ±8KV/Air ±15KV	Perf. Criteria A
		RS	IEC/EN61000-4-3 10V/m	Perf. Criteria A
		EFT	IEC/EN61000-4-4 ±2KV	Perf. Criteria A
		Surge	IEC/EN61000-4-5 Line to line ±2KV/ line to ground ±4KV	Perf. Criteria A
		CS	IEC/EN61000-4-6 10Vr.m.s	Perf. Criteria A
		Voltage dips, short interruption and voltage variations	IEC/EN61000-4-11 100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	Perf. Criteria B

Note: 1.The power supply should be considered as a part of the components in the system, for EMC test installation method, please refer to Note 7 & 8 of the dimension drawing;

2.Category I products with PE (which st be connected), category II products without PE.

Product Characteristic Curve

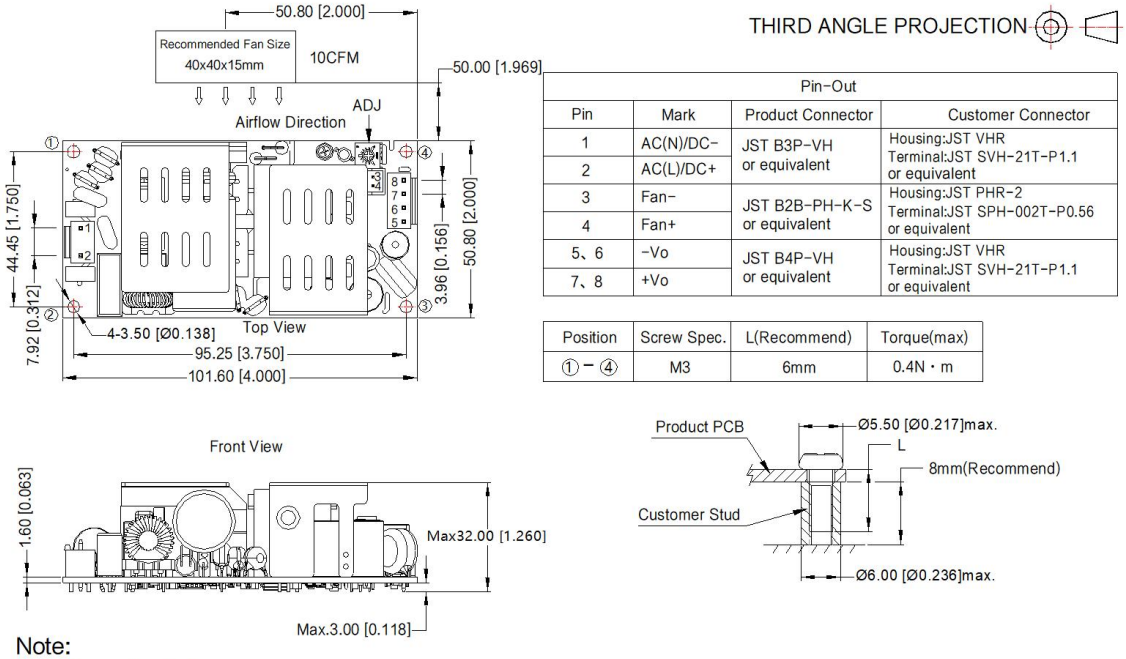




Note: ① With an AC input between 85-115VAC and a DC input between 120-160VDC, the output power st be derated as per temperature derating curves;

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

Dimensions and Recommended



Pin-Out			
Pin	Mark	Product Connector	Customer Connector
1	AC(N)/DC−	JST B3P-VH or equivalent	Housing:JST VHR Terminal:JST SVH-21T-P1.1 or equivalent
2	AC(L)/DC+		
3	Fan−	JST B2B-PH-K-S or equivalent	Housing:JST PHR-2 Terminal:JST SPH-002T-P0.56 or equivalent
4	Fan+		
5、6	−Vo	JST B4P-VH or equivalent	Housing:JST VHR Terminal:JST SVH-21T-P1.1 or equivalent
7、8	+Vo		

Position	Screw Spec.	L(Recommend)	Torque(max)
①－④	M3	6mm	0.4N・m

Note:
1. Unit: mm[inch]
2. ADJ: Output adjustable resistor
3. General tolerances: ± 1.00[± 0.039]
4. Do not use fan power to power other devices
5. The layout of the device is for reference only, please refer to the actual product
6. It is recommended 10mm distance between the PCB and other components for safety purpose
7. Class Ⅰ system ①, ③ positions must be connected to the earth(⏚)
8. Class Ⅱ system ①, ③ positions must be connected together

Note:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75% with nominal input voltage and rated output load;
2. All index testing methods in this datasheet are based on our company corporate standards;
3. We can provide product customization service, please contact our technicians directly for specific information;
4. Products are related to laws and regulations: see "Features" and "EMC";
5. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.
6. 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.