DESCRIPTIONS

120W, AC/DC Open Frame Power Supply



RoHS

Report Report

UL62368-1
UL60601-1

EN62368-1

BS EN62368-1

FEATURES

- Universal 85 - 264VAC or 120 - 370VDC input voltage
- Operating ambient temperature range: -40℃ to +85℃
- Active PFC
- High I/O isolation test voltage up to 4000VAC
- Operating altitude up to 5000m
- Extremely low leakage current ＜0.1mA
- Stand-by power consumption 0.5W Typ.
- The base plate with conformal coating
- Output short circuit, over-current, over-voltage, over-temperature protection
- Efficiency up to 95%
- Suitable for BF application
- Installing in system of Safety Class I/II is available

APPLICATIONS

- Industrial control
- LED
- Street light control
- Electricity
- Security
- Telecommunications
- Smart home
- Medical

Selection Guide

Certification	Part No.*	Rated Output Power* (W)	Nominal Output Voltage and Current (Vo/Io)	Transient power * 10S(W)	Output adj. Range (V)	Efficiency at 230VAC (%) Typ.*	Max. Capacitive Load (μF)
EN/ BS EN/UL	AOF120-2B-12-C	114	12V/9.5A	141.6	11.4-12.6	94	6000
	AOF120-2B-15-C	114	15V/7.6A	142.5	14.3-15.8	94	5000
	AOF120-2B-19-C	119.7	19V/6.3A	149	17.3-19.8	93	4500
	AOF120-2B-24-C	120	24V/5A	150	22.8-25.2	95	3200
UL	AOF120-2B-27-C	119.9	27V/4.44A	149.8	25.6-28.4	95	2400
EN/ BS EN/UL	AOF120-2B-36-C	120	36V/3.33A	149.76	35.28-37.8	94	2000
	AOF120-2B-48-C	120	48V/2.5A	150	45.6-50.4	94.5	1600
	AOF120-2B-54-C	120	54V/2.22A	149.58	51.3-55.5	94	1300

Note: 1. *If the total output power exceeds the nominal output power, it can be maintained for a maximum of 10s. The power supply cannot exceed the transient power. When the output voltage is increased, the total output power cannot exceed the nominal output power;

2. *The maximum transient output power interval must be greater than 30 minutes;

3. *AOF open frame series is also available, named AOF120-2B-xx.

4. *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		--	--	2	A
		230VAC		--	--	1	
	Inrush Current	115VAC	Cold start	--	40	--	
		230VAC		--	75	--	
	Power Factor	115VAC	Full Load	0.98	--	--	--
		230VAC		0.94	--	--	
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy*	Full load range	12V/15V	--	±2.0	--	%
			19V/24V/27V/36V/48V/54V	--	±1.0	--	
	Line Regulation	Rated load		--	±0.5	--	
	Load Regulation	0% - 100% load		--	±1.0	--	
	Minimum Load			0	--	--	
	Stand-by Power Consumption			--	0.5	--	W
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V/15V	--	--	120	mV
			19V/24V/27V	--	--	150	
			36V/48V/54V	--	--	200	
	Temperature Coefficient			--	±0.03	--	%/℃
	Hold-up Time	230VAC, 25℃		15	--	--	ms
	Short Circuit Protection	Recovery time < 3s after the short circuit disappear		Hiccup, continuous, self-recover			
	Over-current Protection			≥130% Io, hiccup, self-recover			
	Over-voltage Protection	12V		≤16V (Output voltage turn off, re-power on for recover)			
		15V		≤25V (Output voltage turn off, re-power on for recover)			
		19V		≤25V (Output voltage turn off, re-power on for recover)			
		24V		≤32V (Output voltage turn off, re-power on for recover)			
		27V		≤35V (Output voltage turn off, re-power on for recover)			
		36V		≤50V (Output voltage turn off, re-power on for recover)			
		48V		≤60V (Output voltage turn off, re-power on			

					for recover)			
	Over-voltage Protection		54V		≤60V (Output voltage turn off, re-power on for recover)			
	Over-temperature Protection				Output voltage turn off, re-power on to recover after abnormal removed			
General Specifications	Isolation Test	Input - ⏚	Electric strength test for 1min., leakage current <10mA		1500	--	--	VAC
		Input - output			4000	--	--	
		Output - ⏚			1500	--	--	
	Insulation Resistance	Input - ⏚	Ambient temperature: 25 ± 5℃ Relative humidity: < 70%RH, no condensation Test voltage: 500VDC		100	--	--	MΩ
		Input - output			100	--	--	
		Output - ⏚			100	--	--	
	Isolation level	Input - output			2 × MOPP			
		Input - ⏚			1 × MOPP			
		Output - ⏚			1 × MOPP			
	Operating Temperature				-40	--	+85	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity		Non-condensing		10	--	95	%RH
	Operating Humidity				20	--	90	
	Power Derating		Operating temperature derating	+45℃ to +85℃	Air cooling	2.0	--	--	%/℃
				+50℃ to +85℃	10CFM				
				-40℃ to -30℃		2.0	--	--	
			Input voltage derating	85VAC-115VAC	Air cooling	1.0	--	--	%/VAC
				85VAC-100VAC	10CFM	2.0	--	--	
	Leakage Current		240VAC			< 0.1mA; single fault < 0.5mA			
	Safety Class					CLASS I (with PE and must be connected)/ CLASS II (without PE)		
	MTBF		MIL-HDBK-217F@25℃			>300,000 h		
	Warranty		Ambient temperature: <50℃			5 years		
Mechanical Specifications	Case Material		Metal (AL5052, SUS304)					
	Dimensions		80.00mm × 62.00mm × 40.00mm					
	Weight		180g (Typ.)					
	Cooling Method*		Air cooling / 10CFM					

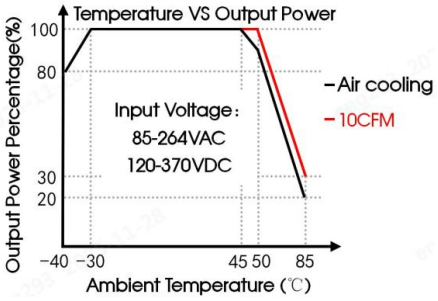
Note: 1. *Output voltage accuracy: including the setting error, line regulation, load regulation;
2. *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor;
3. *When the product works at light load (≤15% IO), in order to improve the efficiency to reach at green working mode, the value of ripple and noise will be double.
4.*Cooling method and power derating refer to typical characteristic curves.

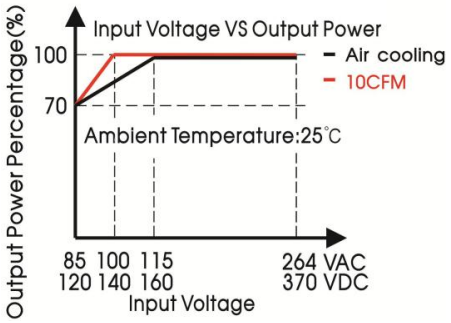
Electromagnetic Compatibility (EMC)

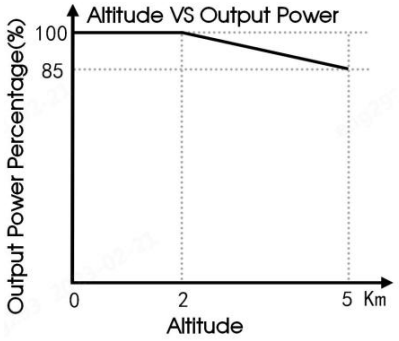
Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32/EN55032 CLASS B	
		RE	CISPR32/EN55032 (CLASS I equipment, CLASS B; CLASS II equipment, CLASS A)	
		Harmonic current	IEC/EN61000-3-2 CLASS A and CLASS D	
		Voltage flicker	IEC/EN61000-3-3	
	Immunity (EMS)	ESD	IEC/EN 61000-4-2 Contact ±8KV/Air ±15KV	perf. Criteria A
		RS	IEC/EN 61000-4-3 10V/m	perf. Criteria A
		EFT	IEC/EN 61000-4-4 ±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 immunity	IEC/EN61000-4-11 0%, 70%	perf. Criteria B

Note: 1.*The power supply should be considered as a part of the components in the system.The power supply must be combined with the terminal equipment for electromagnetic compatibility confirmation;
2.*Category I products with PE (which must be connected), category II products without PE;

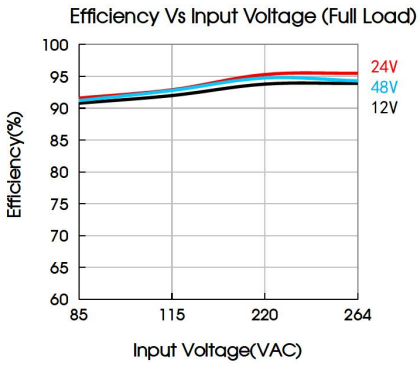
Characteristic Curve

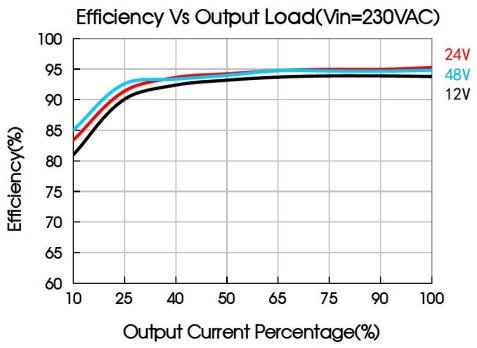




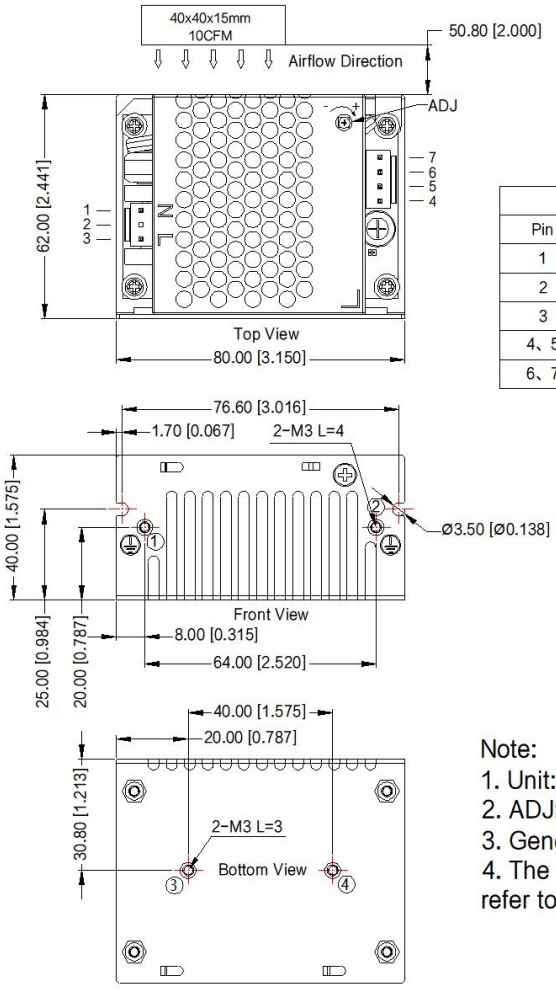


Note: With an AC input voltage between 85 - 115VAC and a DC input between 120 - 160VDC the output power must be derated as per the temperature derating curves.





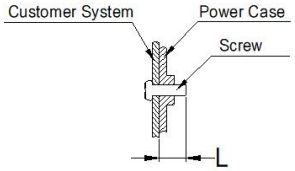
Dimensions and Recommended



THIRD ANGLE PROJECTION

Pin-Out			
Pin	Mark	Product Connector	Customer Connector
1	AC(N)	JST B3P-VH or equivalent	Housing: JST VHR Contact: JST SVH-21T-P1.1 or CPJ-016 (Optional Accessory)
2	NC		
3	AC(L)		
4、5	-Vo	JST B4P-VH or equivalent	Housing: JST VHR Contact: JST SVH-21T-P1.1 or CPJ-017(Optional Accessory)
6、7	+Vo		

Position	Screw Spec.	L(max)	Recommended Torque
① - ②	M3	4mm	0.4 ± 0.04N · m
③ - ④	M3	3mm	0.4 ± 0.04N · m



Note:
1. Unit: mm[inch]
2. ADJ: Output voltage adjustable resistor
3. General tolerances: ± 1.00[± 0.039]
4. The layout of the device is for reference only, please refer to the actual product

CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.

ATTENTION: Double pôle/fusible sur le neutre. Débrancher lalimentation avant lentretien

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. Class I system ①② positions must be connected to the earth (⏚), Class II system ①② position does not need to be connected to the earth (⏚);
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.
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.