AD120-2B-xxS Series

DESCRIPTIONS 120W, DIN-Rail Power Supply



RoHS

3 Years Warranty

CE Report EN62368-1

UKCA Report BS EN62368-1

FEATURES

- Universal 90 - 264VAC or 127 - 370VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -20℃ to +60℃
- High I/O isolation test voltage up to 4000VAC
- Low ripple & noise
- Output short circuit, over-current, over-voltage, over-temperature protection
- DIN rail TS-35/7.5 or 15 mountable
- Ultra slim design: suitable for small chassis and narrow space installation
- Safety according to UL508

APPLICATIONS

- Industrial control
- Electricity
- Security

Selection Guide

Certification	Part No	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (μF)
EN/BS EN	AD120-2B-12S	120	12V/10A	12-14	85	3000
	AD120-2B-24S		24V/5A	24-28	88	1200
	AD120-2B-48S		48V/2.5A	48-55	89	800

Note: 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		90	--	264	VAC
		DC input		127	--	370	VDC
	Input Voltage Frequency			47	--	63	Hz
	Input Current	115VAC		--	--	3.0	A
		230VAC		--	--	1.6	
	Inrush Current	115VAC	Cold start	--	30	--	
		230VAC		--	55	--	
	Leakage Current	240VAC		< 1.0mA			
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range	12V	--	±2.0	--	%
			24V/48V	--	±1.0	--	
	Line Regulation	Rated load		--	±0.5	--	
	Load Regulation	0% - 100% load		--	±1.0	--	
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V	--	--	100	mV
			24V	--	--	120	
			48V	--	--	150	
	Temperature Coefficient			--	±0.03	--	%/℃
	Minimum Load			0	--	--	%
	Hold-up Time	115VAC		8	--	--	ms
		230VAC		16	--	--	
	Short Circuit Protection	Recovery time < 3s after the short circuit disappear.		Constant current, continuous, self-recovery			
	Over-current Protection	230VAC, rated load	Normal temperature, high temperature	105%-150% Io, constant current mode, automatic recover after fault condition is removed			
			Low temperature	≥105%Io, constant current mode, automatic recover after fault condition is removed			
	Over-voltage Protection	12V		≤16V (Output voltage turn off, re-power on for recover)			
		24V		≤33V (Output voltage turn off, re-power on for recover)			
		48V		≤60V (Output voltage turn off, re-power on for recover)			
	Over-temperature Protection			Output voltage turn off, re-power on for recover			
General	Isolation Test	Input - ⏚	Electric strength test for	2000	--	--	VAC

Specifications		Input - output	1min., leakage current <10mA		4000	--	--	
		Output - ⏚			500	--	--	
	Insulation Resistance	Input - ⏚	At 500VDC		100	--	--	MΩ
		Input - output			100	--	--	
		Output - ⏚			100	--	--	
	Operating Temperature				-20	--	+60	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity		Non-condensing		10	--	95	%RH
	Operating Humidity				20	--	90	
	Switching Frequency				--	65	--	kHz
	Power Derating	Operating temperature derating	All series	-20℃ to -10℃	115VAC	2.0	--	--	%/℃
				-20℃ to -10℃	230VAC	0	--	--	
				+40℃ to +60℃	115VAC	2.5	--	--	
			12V	+45℃ to +60℃	230VAC	3.33	--	--	
			24V/48V	+50℃ to +60℃	230VAC	5	--	--	
		Input voltage derating	90VAC -115VAC			1.0	--	--	%/VAC
	Safety Class					CLASS I			
	MTBF		MIL-HDBK-217F@25℃			≥300,000 h			
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)						
	Dimensions		36.00 x 125.00 x 100.00mm						
	Weight		410g (Typ.)						
	Cooling Method		Free air convection						

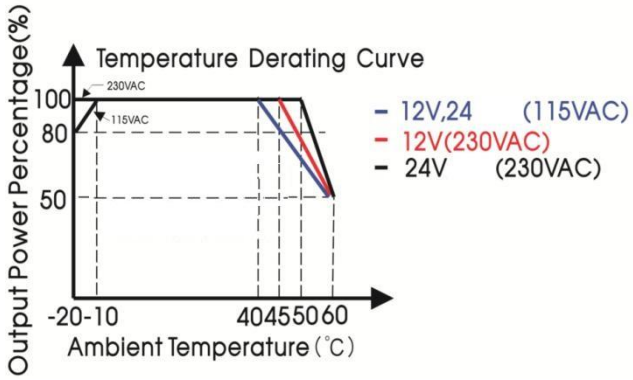
Note: *The “Tip and barrel method” is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

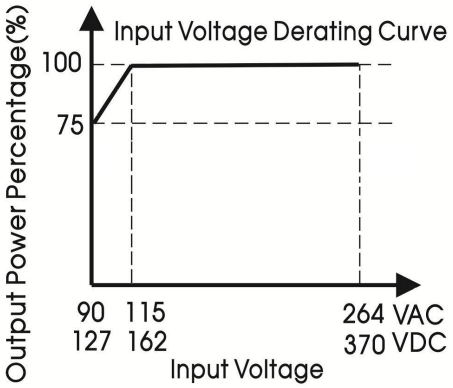
Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32/EN55032 CLASS A	
		RE	CISPR32/EN55032 CLASS A	
		THD	IEC/EN61000-3-2 CLASS A	
	Immunity (EMS)	ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV	perf. Criteria B
		RS	IEC/EN 61000-4-3 10V/m	perf. Criteria A
		EFT	IEC/EN 61000-4-4 ±4KV	perf. Criteria B
		Surge	IEC/EN 61000-4-5 line to line ±2KV/line to ground ±4KV	perf. Criteria B
		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

Warning:This is an EMl class A product.In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

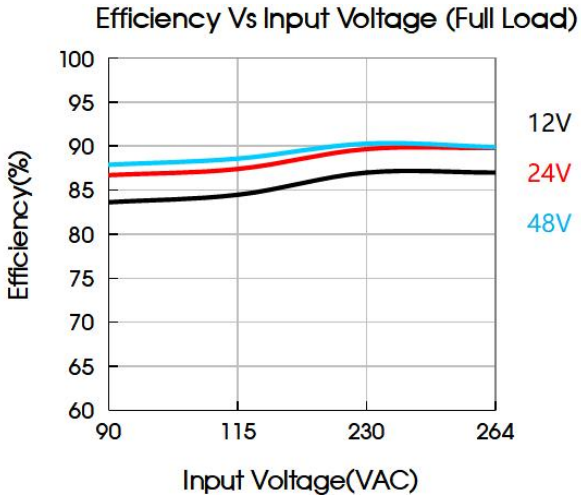
Characteristic Curve

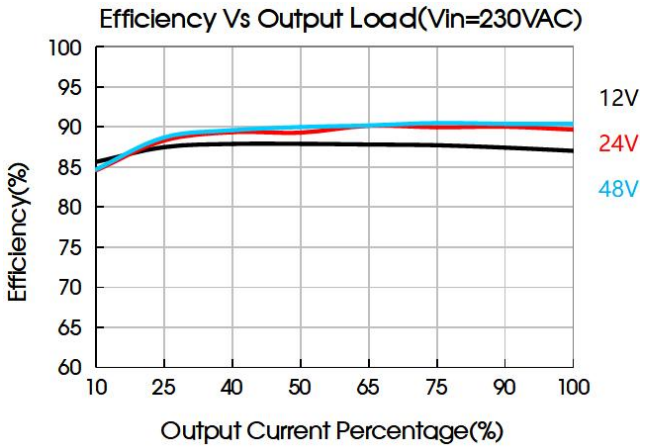




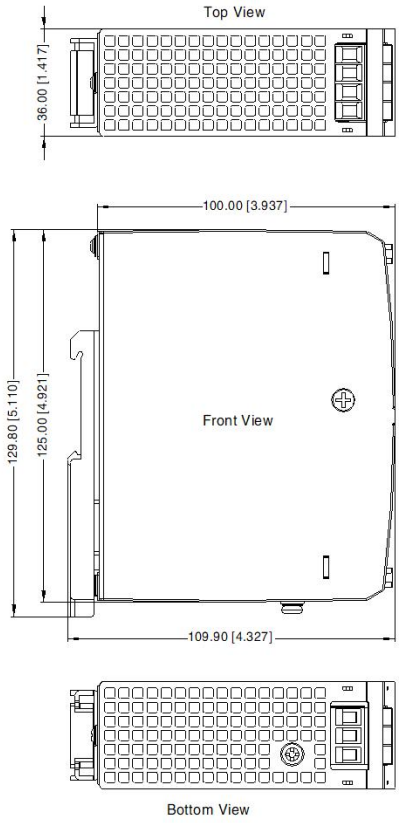
Note: 1. With an AC input between 90 -115VAC and a DC input between 127-162VDC the output power must be derated as per the temperature derating curves;

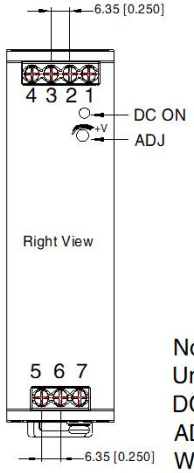
2. This product is suitable for applications using natural air cooling.





Dimensions and Recommended





THIRD ANGLE PROJECTION

Pin–Out	
Pin	Mark
1	–Vo
2	–Vo
3	+Vo
4	+Vo
5	AC(N)
6	AC(L)
7	⏚

Note:
Unit: mm[inch]
DC ON: Output status indicator LED
ADJ: Output adjustable resistor
Wire range: Input: 26–10AWG(12–10AWG for pin 7)
Output: 12V: 12–10AWG
24V: 16–10AWG
48V: 18–10AWG
Tightening torque: Max 0.79 N・m
Mounting rail: TS35, rail needs to connect safety ground
General tolerances: ± 1.00[± 0.039]

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. Products are related to laws and regulations: see "Features" and "EMC";
6. The out case needs to be connected to the earth (⏚) of system when the terminal equipment in operating;
7. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.
8. He power supply is considered a component which will be installed into a final equipment.
9. 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.