AD75-2B-xxS Series

DESCRIPTIONS 75W, AC-DC Din-Rail Power Supply



RoHS

CE Report EN62368-1

UKCA Report BS EN62368-1

FEATURES

- Universal 90 - 264VAC or 120 - 370VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -30℃ to +70℃
- 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
- Suitable for small chassis and narrow space installation

APPLICATIONS

- Industrial Control Equipment
- Machinery
- Industrial Equipment

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	AD75-2B-12S	75.6	12V/6.3A	12-14	86	6000
	AD75-2B-24S	76.8	24V/3.2A	24-28	89	1500
	AD75-2B-48S		48V/1.6A	48-53	90	1000

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	Rated input (Certified voltage)		100	--	240	VAC
		AC input		90	--	264	
		DC input		120	--	370	VDC
	Input Voltage Frequency			47	--	63	Hz
	Input Current	115VAC		--	--	2	A
		230VAC		--	--	1	
	Inrush Current	115VAC	Cold start	--	25	--	
		230VAC		--	45	--	
	Leakage Current	240VAC		< 0.5mA			
	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	--	--	80	mV
			24V	--	--	120	
			48V	--	--	150	
	Temperature Coefficient			--	±0.03	--	%/℃
	Minimum Load			0	--	--	%
	Hold-up Time	115VAC		12	--	--	ms
		230VAC		60	--	--	
	Short Circuit Protection	Recovery time < 3s after the short circuit disappear.		Constant current, continuous, self-recovery			
	Over-current Protection	Normal temperature		105% - 150% Io, constant current mode, automatic recover after fault condition is removed			
		Low temperature, high temperature		≥105%Io, constant current mode, automatic recover after fault condition is removed			
	Over-voltage Protection	12V		≤17V (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 after the temperature drops.			
General Specifications	Isolation Test	Input - ⏚	Electric strength test for 1min., leakage current <10mA	2000	--	--	VAC
		Input - output		4000	--	--	
		Output - ⏚		500	--	--	
	Insulation Resistance	Input - ⏚	At 500VDC	50	--	--	MΩ

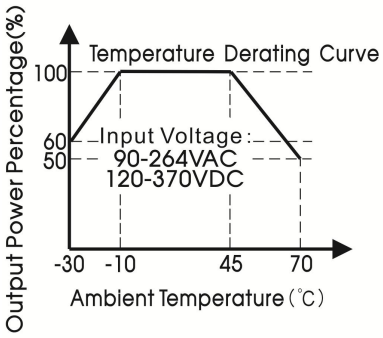
		Input - output		50	--	--	
		Output - ⏚		50	--	--	
	Operating Temperature			-30	--	+70	℃
	Storage Temperature			-40	--	+85	
	Storage Humidity		Non-condensing	10	--	95	%RH
	Operating Humidity			20	--	90	
	Switching Frequency			--	65	--	kHz
	Power Derating	Operating temperature derating	-30℃ to -10℃	2.0	--	--	%/℃
			+45℃ to +70℃	2.0	--	--	
		Input voltage derating	90VAC - 100VAC	2.0	--	--	%/VAC
	Safety Class			CLASS I			
	MTBF		MIL-HDBK-217F@25℃	≥300,000 h			
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)				
	Dimensions		32.00mm x 125.00mm x 87.50mm				
	Weight		350g (Typ.)				
	Cooling Method		Free air convection				

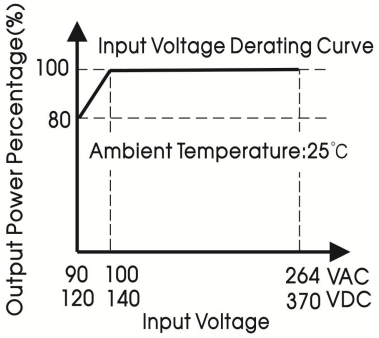
Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32/EN55032 CLASS B	
		RE	CISPR32/EN55032 CLASS B	
		THD	IEC/EN 61000-3-2 CLASS A	
	Immunity	ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV	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

Characteristic Curve

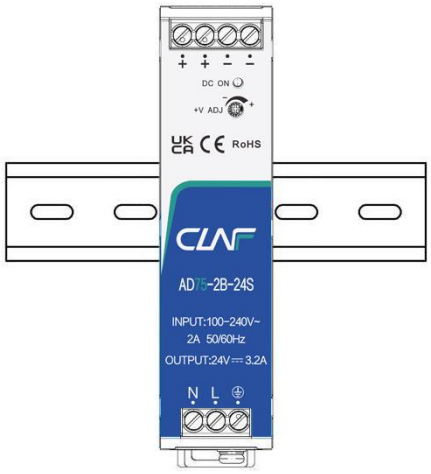


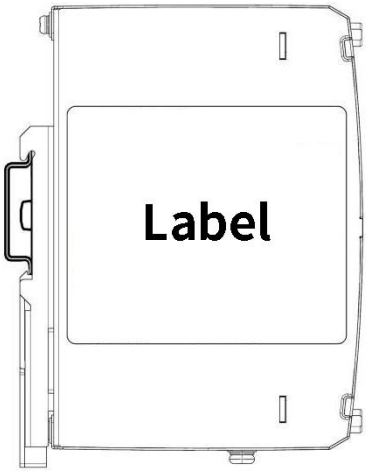


Note: 1. With an AC input voltage between 90 -100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;

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

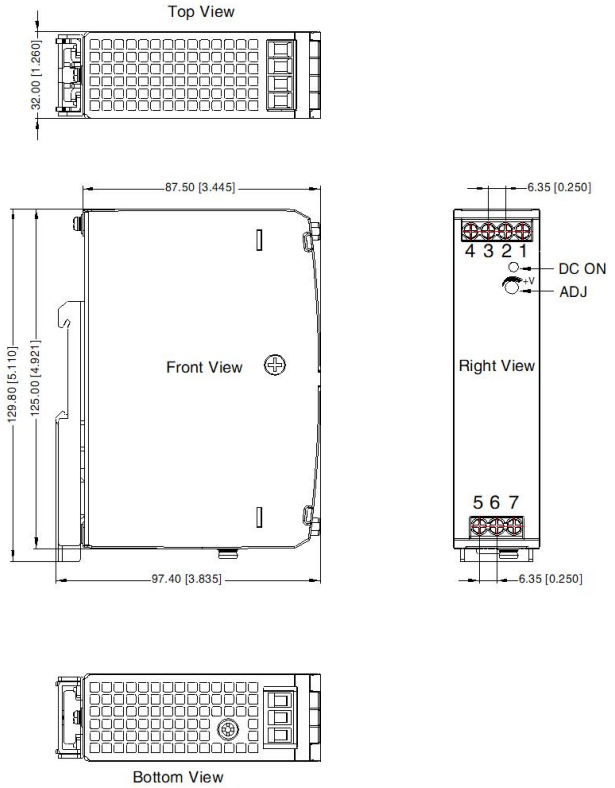
Installation Diagram





Note: Keep the following installation clearances: 20mm on top, 20mm on the bottom, 5mm on the left and right sides are recommended when the device is loaded permanently with more than 50% of the rated power. Increase this clearance to 15mm in case the adjacent device is a heat source (e.g. another power supply).

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]
ADJ: Output adjustable resistor
Wire range: 26–10 AWG
Tightening torque: Max 0.79N・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. 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;
3. Products are related to laws and regulations: see "Features" and "EMC";
4. The out case needs to be connected to PE (⏚) of system when the terminal equipment in operating;
5. The output voltage can be adjusted by the ADJ, clockwise to increase;
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.