



# APS-120-24

## Datasheet

Aiming to create better and safer working environments and life experiences through the products we deliver.



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## 120W DIN-Rail Switching Power Supply

### APS-120-24

is an environment friendly power supply for standard DIN-rail mounting with feature of cost-effective and energy efficient. The products offer a high level of stability and immunity to noise, it also has an extremely compact design for space saving and are ideal for applications such as industrial control equipment machinery and all kinds of applications in harsh environment. With good EMC performance, the products compliant with international standards for EMC and safety specifications meet IEC/EN/UL62368, UL61010.



**CB Report**



### Features & Benefits

- Wide input voltage range: 85 ~ 264 VAC / 120 ~ 370 VDC
- Accepts AC or DC input (dual-use of same terminal)
- Operating temperature: -40 °C to +70 °C
- High efficiency up to 94%, high reliability
- DC OK function
- Active PFC
- 150% peak load output for 3 seconds
- DC ON output status indicator LED
- Output short circuit, over-current, over-voltage, over-temperature protection
- Operating altitude up to 5000m
- Over Voltage Class II
- Indoor use



### Ordering Information

Part No.	Output power (W)	Nominal Output Voltage & Current (Vo/Io)	Output Voltage Adjustable Range ADJ*	Efficiency @230VAC (Typ.)	Max. Capacitive Load	Certification
APS-120-24	120	24 V/5 A	23.5 V-28 V	94%	50000 µF	UL/EN

\* The actual adjustment may exceed the listed values, care shall be taken to ensure the output voltage and power within the maximum value that listed above.



## Specifications

Input Specifications					
Item	Operating condition		Min.	Typ.	Max.
Input Voltage Range	Rated input (Certified voltage)		100 V	-	240 V
	AC input		85 V	-	264 V
	DC input		120 V	-	370 V
Input Frequency	Rated AC input		50 Hz	-	60 Hz
	AC input		47 Hz	-	63 Hz
Input Current	Rated input				1.5 A
	115 VAC		-	-	1.5 A
	230 VAC		-	-	0.75 A
Inrush Current	115 VAC	Cold start	-	15 A	--
	230 VAC		-	30 A	--
Leakage Current	240 VAC		<1 mA		
Power Factor	115 VAC		-	0.98	-
	230 VAC		-	0.94	-
Start-up Delay Time	230 VAC		-	300 ms	1000 ms
Hot Plug			Unavailable		
Output Specifications					
Item	Operating condition		Min.	Typ.	Max.
Output Voltage Accuracy	Full load range		-	±1.0%	
Line Regulation	Rated load		-	±0.5%	
Load Regulation	0% - 100% load		-	±1.0%	
Output Ripple & Noise	20MHz bandwidth (peak-to-peak value)	24 V	-	-	100 mV
Stand-by Power Consumption			-	2 W	-
Hold-up Time			-	20 ms	-
DC OK Signal	Resistive load		30VDC/1A Max.		
Short Circuit Protection	Recovery time < 3s after the short circuit disappear.		Constant current, continuous, self-recovery		
Over-voltage Protection	24 V		≤35 V (Hiccup, self-recovery after the abnormality is removed)		
Over-current Protection	230VAC, rated load	Normal temperature high temperature	105% - 200% Io, self-recovery		
		Low temperature	≥105% full load after derating, self-recovery		
Over-temperature	230VAC, 70% load	Over-temperature protection start	-	90 °C	-
		Over-temperature protection release	60 °C	-	-

## Specifications

General Specifications						
Item		Operating condition		Min.	Typ.	Max.
Isolation	Input - Ground	Electric strength test for 1min., leakage current <15mA		1500 VAC	-	-
	Input - output			3000 VAC	-	-
	Output - Ground			500 VAC	-	-
Insulation Resistance	Input - Ground	@ 500VDC		50 MΩ	-	-
	Input - output			50 MΩ	-	-
	Output - Ground			50 MΩ	-	-
Operating Temperature				-40 °C	-	+70 °C
Storage Temperature				-40 °C	-	+85 °C
Operating Humidity		Non-condensing		-	-	95%RH
Storage Humidity				20%RH	-	95%RH
Switching Frequency				-	100 kHz	-
Power Derating	Operating temperature derating	-40 °C to -25 °C		3.34%/°C	-	-
		+55 °C to +70°C	85 VAC-164 VAC	2.0%/°C	-	-
		+60 °C to +70°C	165 VAC-264 VAC	3.0%/°C	-	-
	Input voltage derating		85 VAC-100 VAC	0.67%/VAC	-	-
Safety Standard		UL61010-1, UL61010-2-201 safety approved & EN62368-1 (Report) Design refer to IEC/EN/UL62368-1, UL61010-1, UL61010-2-201				
Safety Class		CLASS I				
MTBF		MIL-HDBK-217F@25°C		> 300,000 h		

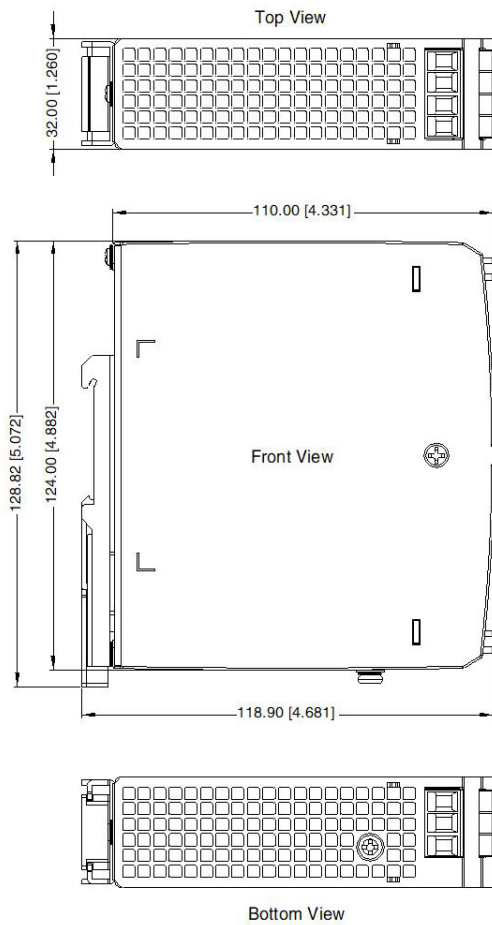
## Mechanical Specifications

Case Material	Metal (AL5052, SPCC, SGCC) and Plastic (PA66)
Dimensions	110.00 mm x 32.00 mm x 124.00 mm
Weight	490 g±10% (Typ.)
Cooling method	Free air convection

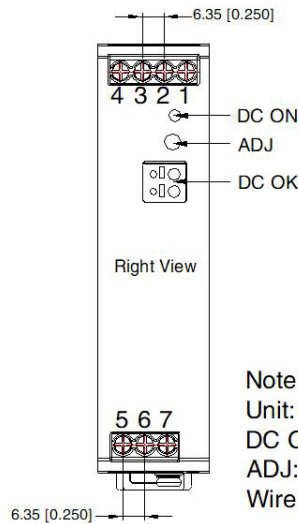
## Electromagnetic Compatibility (EMC)


Emissions	CE	CISPR32/EN55032	CLASS B
	RE	CISPR32/EN55032	CLASS B
	Harmonic current	IEC/EN 61000-3-2	CLASS A and CLASS D
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/EN 61000-4-6	10Vr.m.s perf. Criteria A
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN 61000-4-11	0%, 70% perf. Criteria B

## Installation dimensions



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 Pin7)

Output: 12V: 16-10AWG

24V: 20-10AWG

48V: 22-10AWG

DC OK: 24-16AWG

Tightening torque: 0.79 ± 0.079 N·m

Mounting rail: TS35, rail needs to connect safety ground

General tolerances: ± 1.00 [± 0.039]