

**DESCRIPTIONS** 120W, AC/DC DIN-Rail Power Supply

CE Report

EN62368-1

UKCA Report

BS EN62368-1

RoHS

**FEATURES**

- Universal 180-600VAC or 254-848VDC input voltage
- Single/Two phase both available
- Operating ambient temperature range: -25°C to +70°C
- High I/O isolation voltage up to 4000VAC
- Industrial-grade design
- Low ripple & noise, high efficiency, high reliability
- DC OK function
- 150% peak load for 3 seconds
- LED indicator for power on
- Output short circuit, over-current, over-voltage, over-temperature protection
- OVC III, 2000m altitude (UL508, IEC60664 standards)
- Safety according to UL508, IEC62368, IEC60664

**APPLICATIONS**

- Industrial control
- Electromechanical equipment
- Automation equipment

**Selection Guide**

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)	Efficiency at 400VAC (%) Typ.	Capacitive Load (μF) Max.
EN/BS EN	ADW120-12	120	12V/10.0A	12-14	89.5	15000
	ADW120-24	120	24V/5.0A	24-28	91	10000
	ADW120-48	120	48V/2.5A	48-55	92	8000

Note: 1.The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

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

## Characteristic

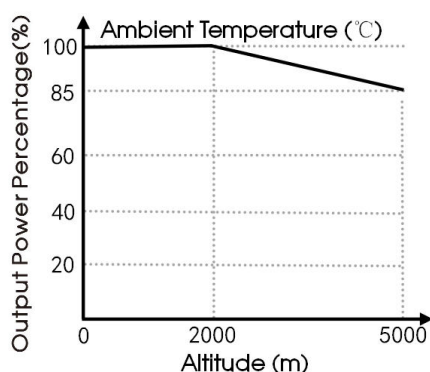
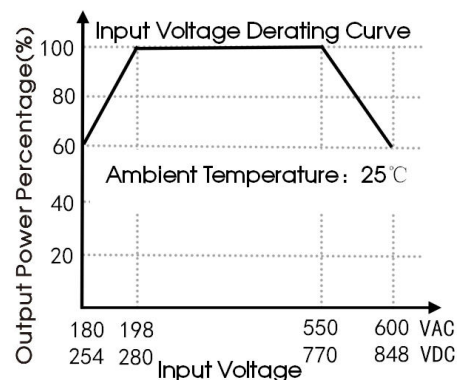
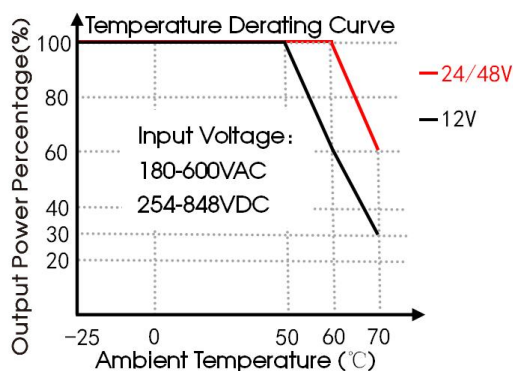
Product Specifications	Item	Operating Conditions		Min.	Typ.	Max.	Unit	
Input Specifications	Input Voltage Range	Rated input (certified voltage)		220	--	480	VAC	
		AC input		180	--	600		
		DC input		254	--	848	VDC	
	Input Frequency			47	--	63	Hz	
	Input Current	230VAC		--	1.2	1.4	A	
		400VAC		--	0.7	1.0		
	Inrush Current	400VAC	Cold start	--	50	--		
	Leakage Current			<3.5mA/rms				
Hot Plug			Unavailable					
Output Specifications	Output Voltage Accuracy	0% - 100% load	12V output	--	±1.5	±2.0	%	
			24V/48V output	--	±1.0	--		
	Line Regulation	Rated load		--	±0.5	--		%
	Load Regulation	400VAC	12V output	--	±0.5	±1.0		
			24V/48V output	--	±0.5	--		
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V/24V output	--	--	120	mV	
			48V output	--	--	150		
	Temperature Coefficient			--	±0.03	--	%/°C	
	Short Circuit Protection			Constant current hiccup, self-recovery				
	Over-current Protection			≥150% Io, hiccup, self-recovery				
	Over-voltage Protection	12V output		≤16V	Output voltage hiccup			
		24V output		≤35V				
		48V output		≤60V				
	Over-temperature Protection			Shutdown output, recovery after restart				
	Minimum Load			0	--	--	%	
	Start-up Time	400V input	Room temperature, full load (cold start)		--	--	2	s
	DC OK Signal			30VDC/1A Max.				
	Hold-up Time	230VAC		--	10	--	ms	
400VAC		--	50	--				
General Specifications	Isolation	Input - output	Electric Strength Test for 1min., leakage current < 10mA	4000	--	--	VAC	
		Input - PE		2000	--	--		
		Output - PE		500	--	--		
		Output - DC OK	Electric Strength Test for 1min.,	500	--	--		

			leakage current < 2mA					
	Insulation Resistance	Input - output	500VDC	100	--	--	MΩ	
		Input - PE						
		Output - PE						
	Operating Temperature				-25	--	+70	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity				--	--	95	%RH
	Altitude				--	--	5000	m
	Power Derating	+50℃ to +60℃	ADW120-12	4.0	--	--	% /℃	
		+60℃ to +70℃		3.0	--	--		
		+60℃ to +70℃	ADW120-24/48	4.0	--	--		
		180VAC - 198VAC			2.23	--	--	% /VAC
		550VAC - 600VAC			0.8	--	--	
		2000m-5000m			5.0	--	--	% /Km
	Safety Class				CLASS I			
MTBF	MIL-HDBK-217F@25℃			> 300,000 h				
Mechanical Specifications	Case Material	Metal (AL1100, SPCC , SGCC)						
	Package Dimensions	124.00 x 41.00 x 110.00 mm						
	Weight	550g (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, please refer to Enclosed Switching Power Supply Application Notes for specific information.								

## Electromagnetic Compatibility (EMC)

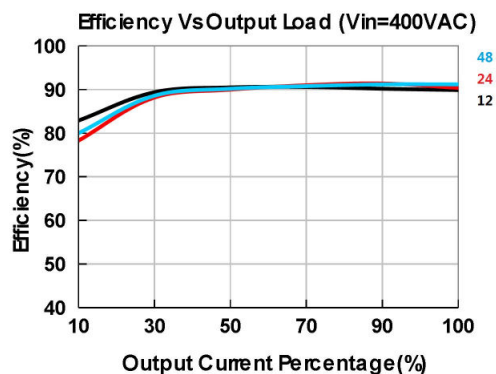
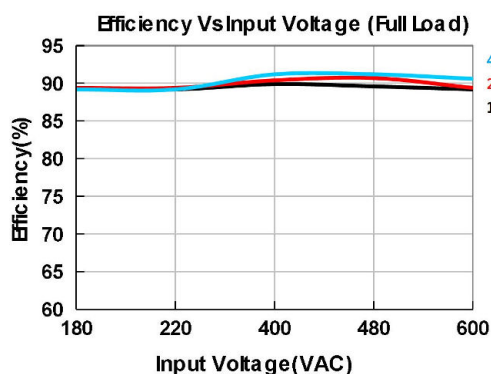
<b>Electromagnetic Compatibility (EMC)</b>	Emissions	CE	CISPR32 EN55032	CLASS B			
		RE	CISPR32 EN55032	CLASS B			
		Harmonic current	IEC/EN61000-3-2	CLASS A			
		Voltage flicker	IEC/EN61000-3-3				
	Immunity	ESD	IEC/EN61000-4-2	Contact ±4KV/Air ±8KV	Perf. Criteria A		
		RS	IEC/EN61000-4-3	10V/m	Perf. 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 interruptions and voltage variations immunity	IEC/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	Perf. Criteria A		

## Product Characteristic Curve



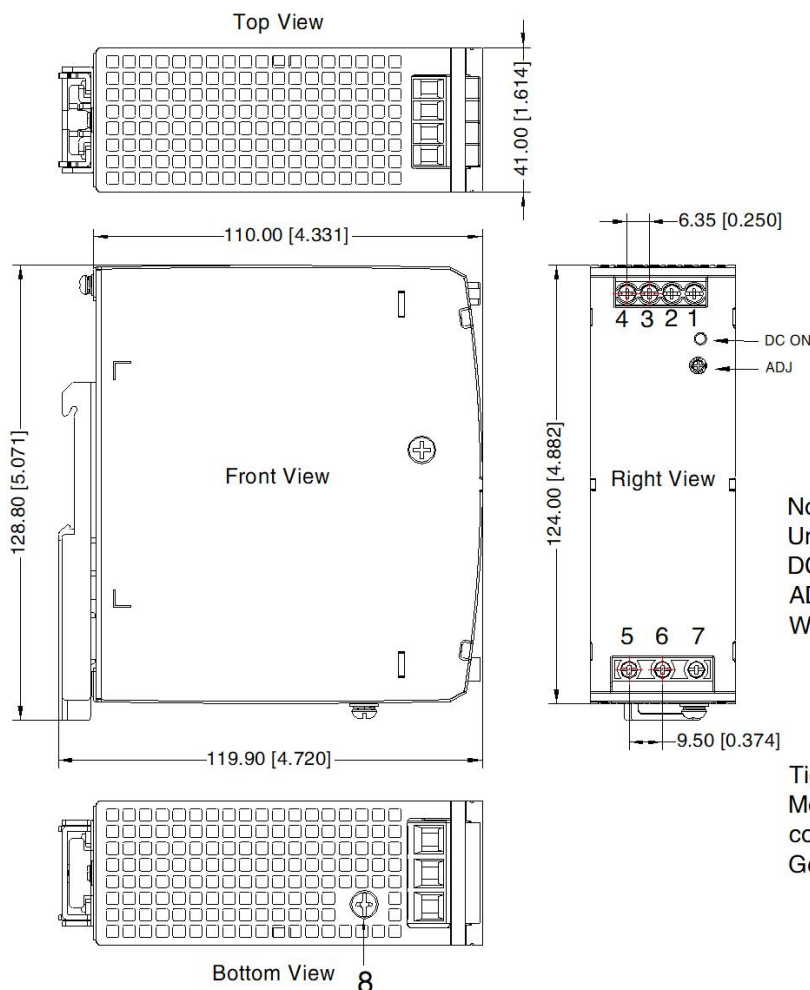

Note: ① With an AC input between 180-198VAC/550-600VAC and a DC input between 254-280VDC/770-848VDC, the output power must be derated as per temperature derating curves;


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




When the device load exceeds 50% of the rated power for a long time, it is recommended to maintain a gap of 20mm at the top, 20mm at the bottom, and 5mm on each side. If the adjacent device is a heat source (such as another power supply), increase this gap to 15mm.

## Dimensions and Recommended

THIRD ANGLE PROJECTION 

Pin-Out	
Pin	Mark
1	+Vo
2	-Vo
3	DC OK
4	
5	AC(L1)
6	AC(L2)
7	

7、8 any position must be connected to the earth()

## Note:

Unit: mm[inch]

DC ON: Output status indicator LED

ADJ: Output adjustable resistor

Wire range: Input: 26-10 AWG

Output: 12V: 16-10AWG

24V: 20-10AWG

48V: 22-10AWG


DC OK: 24-16AWG

Tightening torque: Max 0.5 N·m

Mounting rail: TS35, rail needs to connect safety ground

General tolerances:  $\pm 1.00 [\pm 0.039]$

## Note:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of  $T_a=25^\circ\text{C}$ , humidity<75%RH with nominal input voltage and rated output load;
2. The room temperature derating of  $5^\circ\text{C}/1000\text{m}$  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. The out case needs to be connected to PE () of system when the terminal equipment in operating;
8. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.