

ACO120W-xxV

FEATURES

- Wide input range (90-264VAC, 120-370VDC)
- Size 76.2*50.8*28.0mm, 3"*2"
- No-load power consumption<0.5W
- Protection type: short circuit/over temperature/over load/over voltage
- Operating temperature range -40°C to +85°C
- 4000V isolation voltage
- Built-in EMI filter: CLASS B
- Suitable for CLASS I or CLASS II installations
- 100% high temperature aging and testing
- 3 years warranty



MODEL NUMBERING

ACO120W-xxV

Series Name
Rated Wattage Output Voltage

SELECTION GUIDE

Product Model	Input Voltage	Rated Power (W)	Out Voltage (V)	Out Current (A)
ACO120W-12V	90-264VAC	120	12	10
ACO120W-15V		120	15	8
ACO120W-24V		120	24	5
ACO120W-27V		120	27	4.44
ACO120W-36V		120	36	3.33
ACO120W-48V		120	48	2.5

INPUT CHARACTERISTICS

Parameter	Units
VOLTAGE RANGE	90-264VAC
	120-370VDC
POWER FACTOR (TYP.)	PF>0.95/230VAC PF>0.98/115VAC at full load
CURRENT (TYP.)	1.5A/115VAC 0.8A/230VAC
INRUSH CURRENT (TYP.)	Cold boot 40A/115VAC 75A/230VAC
LEAKAGE CURRENT (TYP.)	<0.75mA/240VAC/60Hz

OUTPUT CHARACTERISTICS

Parameter	Units	Model
VOLTAGE TOLERANCE	±1.0%	12/15V: ±2.0%
LINE REGULATION	±0.5%	
LOAD REGULATION	±1.0%	
EFFICIENCY(TYP.)	94%	ACO120W-12V
	94%	ACO120W-15V
	94%	ACO120W-24V
	95%	ACO120W-27V
	94%	ACO120W-36V
	94.5%	ACO120W-48V
SETUP, RISE TIME (TYP.)	1000ms, 30ms/230VAC 1500ms, 30ms/115VAC at full load	
HOLD UP TIME (TYP.)	12ms/230VAC 12ms/115VAC at full load	
RIPPLE & NOISE (MAX.)	120 mVp-p	ACO120W-12V, ACO120W-15V
	150 mVp-p	ACO120W-24V, ACO120W-27V
	200 mVp-p	ACO120W-36V, ACO120W-48V
Voltage Adjustable Range (V)	Voltage	12VDC 15VDC 24VDC 27VDC 36VDC 48VDC
	Range	11.4-12.6 14.3-15.8 22.6-25.8 26.5-27.8 33.8-38.2 44-50.1

PROTECTION CHARACTERISTICS

Parameter	Units		
OVER LOAD	≥110% load, self-recovery after trouble shooting		
SHORT CIRCUIT	Hiccup mode, self-recovery after trouble shooting		
OVER VOLTAGE	Shut-off output	12VDC output	≤16VDC
		15VDC output	≤20VDC
		24VDC output	≤32VDC
		27 VDC output	≤35VDC
		36 VDC output	≤50VDC
		48 VDC output	≤60VDC
OVER TEMPERATURE	Shut-off output, normal output can be restored after power restart		

ENVIRONMENT CHARACTERISTICS

Parameter	Units
WORKING TEMPERATURE	-40°C to +85°C (Refer to "Derating curve")
WORKING HUMIDITY	10-85%RH
STORAGE TEMP. HUMIDITY	-40°C to +85°C
TEMP. COEFFICIENT	0.03%/ (0-50°C)
VIBRATION	10-500Hz, 2G, 10min./1cycle, 60min.each along X, Y, Z axes
MTBF	165K hrs min. MILDBK-217F (25°C)

SAFETY CHARACTERISTICS

Parameter	Units
SAFETY STANDARDS	Meet to EN/EN62368-1, IEC62368-1
ISOLATION VOLTAGE	I/P-O/P: 4000VAC I/P-FG(CASE): 2500VAC O/P-FG(CASE):500VAC
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: >100M Ohms/500VDC 25°C 70% RH

Parameter

Units

EMC EMISSION & IMMUNITY

EN55011, EN55032 (CISPR32) CLASS B

EMC CHARACTERISTICS

Parameter

Category

Content

EMC

ESD

IEC/EN 61000-4-2 level 4 Contact $\pm 8\text{kV}$ /Air $\pm 15\text{kV}$

RF

IEC/EN 61000-4-3 level 4 level 3

EFT

IEC/EN 61000-4-4 level 4 $\pm 4\text{kV}$

Surge

IEC/EN 61000-4-5 level 4 $\pm 2\text{kV}$

PHYSICAL CHARACTERISTICS

Parameter

Units

DIMENSION (LxWxH)

 $76.2 \times 50.8 \times 28.0 \text{ mm}$

WEIGHT

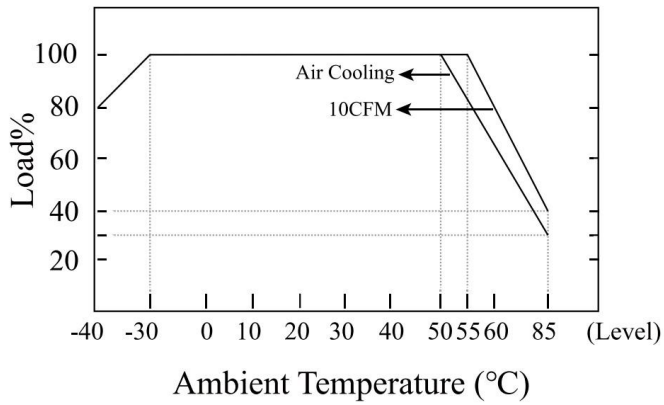
124g

NOTE 1

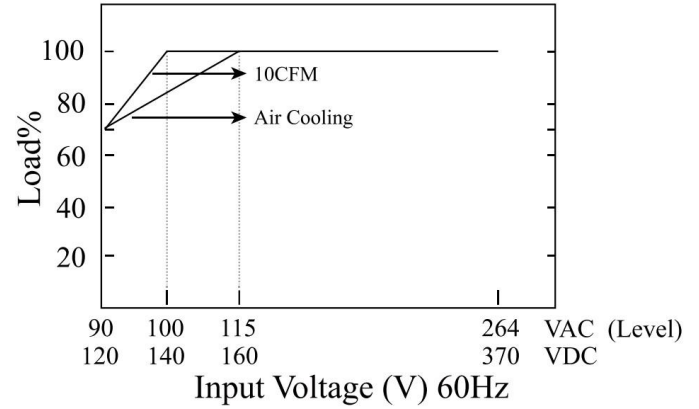
1. All parameters not specially mentioned, are measured when $T_A=25^\circ\text{C}$, humidity $<75\%$, input nominal voltage and output rated load.
2. Measurement method of ripple & noise: Parallel line test method shall be adopted. Meanwhile, $0.1\mu\text{F}$ high-frequency ceramic capacitor and one $47\mu\text{F}$ electrolytic capacitor shall be connected in parallel at the terminal for measurement under 20Mhz bandwidth.
3. The power supply is regarded as a component in the system, and electromagnetic compatibility shall be confirmed in combination with the terminal equipment.

PRODUCT CHARACTERISTIC CURVE

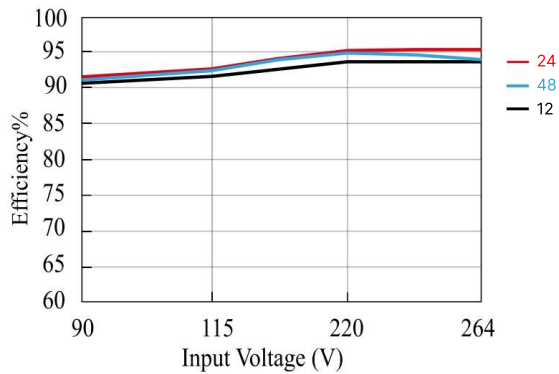
Temperature Derating Curve



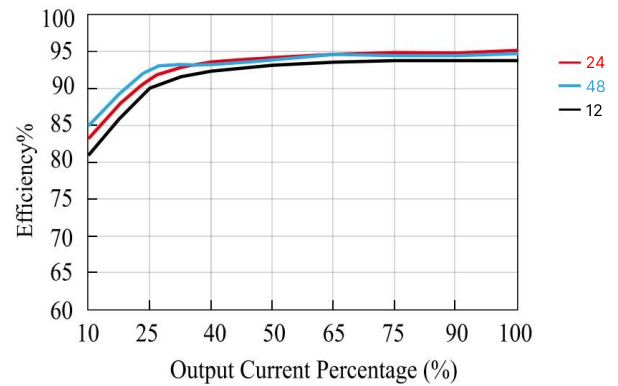
Input Voltage Derating Curve



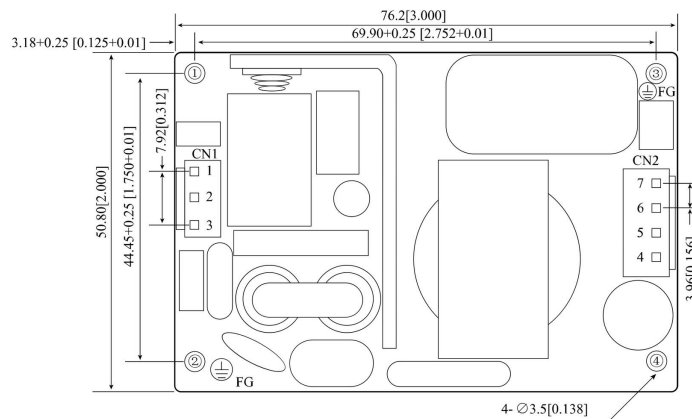
Efficiency Vs Input Voltage (Full Load)

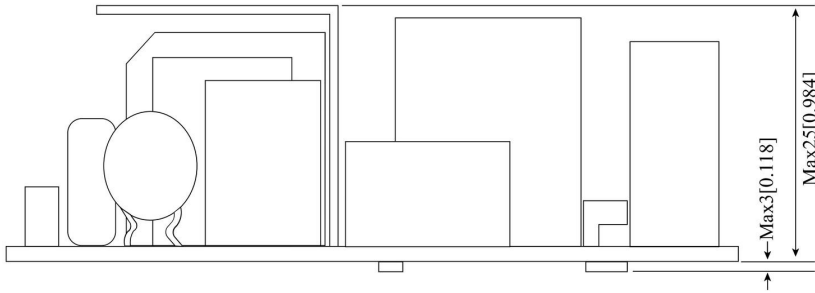


Efficiency Vs Output Load (Vin=230VAC)



DIMENSIONS AND INSTALLATION



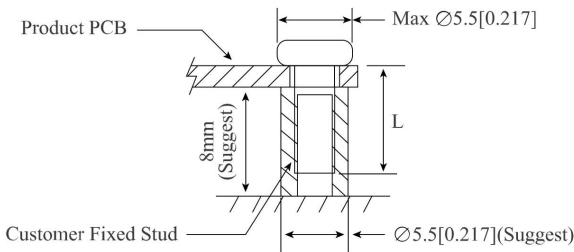


NOTE:

1. Unit size: mm[inch] Unmarked tolerances: $\pm 0.5\text{mm}$
2. CLASS I system: Mounting holes marked with $\perp$ must be connected to safety earth
3. CLASS II system: Unnecessary to connect with safety earth

Installation Location	Screw Specification	L (Suggestion)	Toeque (max)
① - ④	M3	6mm	0.4Nm

Connector	Pin	Function	Customer Connection End
CN1	1	AC(N)	Connector: JST VHR Connector Terminals: JST SVH-21T-P1.1 Or Equivalent Products
	2	NC	
	3	AC(L)	
CN2	4-5	-Vo	Connector: JST VHR Connector Terminals: JST SVH-21T-P1.1 Or Equivalent Products
	6-7	+Vo	



NOTE 2

1. If the product works under the minimum required load, it cannot guarantee that the performance of the product complies with all the performance indicators in this manual;
2. The maximum capacitive load is tested under the input voltage range and full load condition;
3. Unless otherwise stated, all indexes in this manual are measured at $T_a = 25^\circ\text{C}$, humidity $< 75\% \text{RH}$, nominal input voltage and rated output load;
4. All index testing methods in this manual are based on the enterprise standards of the company;
5. Our company can provide product customization, specific needs can directly contact our technical staff;
6. RHENXV reserves the right to make changes to the product at any time without notice.