

FEATURES

1. Universal AC input 80~264VAC
2. Protections: Short circuit / Overload / Over voltage / Over temperature
3. 4"x2" miniature size
4. High efficiency up to 94%
5. No load power consumption < 0.5W
6. LED indicator for power on
7. Cooling by free air convection for 140W and 220W with 10CFM forced air
8. Built-in 12V/0.5A FAN supply
9. Refer to medical safety (2XMOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN60601-1
10. 3 years warranty



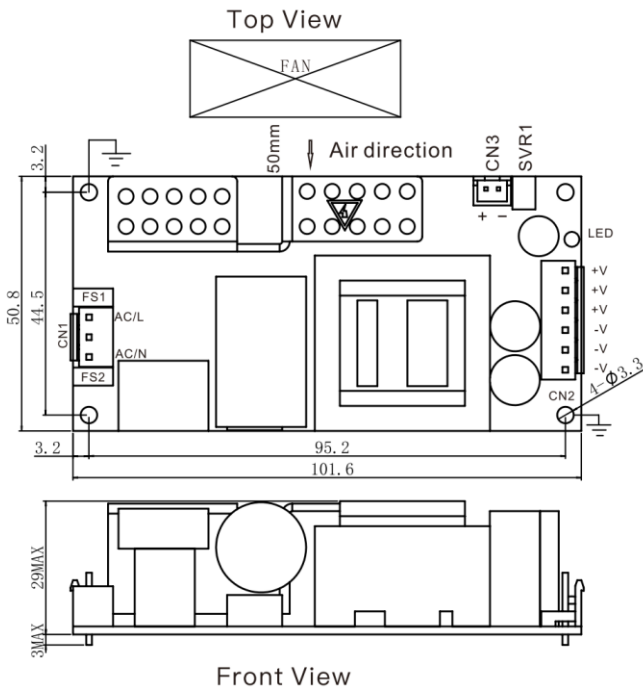
**3 years
Warranty**

Specification

MODEL		RAOF220-20B12	RAOF220-20B15	RAOF220-20B24	RAOF220-20B27	RAOF220-20B36	RAOF220-20B48	
INPUT	VOLTAGE RANGE	80~264VAC (Refer to "Static characteristics")						
	FREQUENCY RANGE	47~63Hz						
	POWER FACTOR	PF>0.93/230VAC PF>0.98/115VAC at full load						
	EFFICIENCY (Typ.)	92.5%	93%	93.5%	93.5%	93.5%	94%	
	AC CURRENT (Typ.)	3A/115VAC 1.5A/230VAC						
	INRUSH CURRENT (Typ.)	30A/115VAC 60A/230VAC (cold start)						
	LEAKAGE CURRENT	Earth leakage current < 130uA/264VAC, touch current < 40uA/264VAC						
OUTPUT	DC VOLTAGE	12V	15V	24V	27V	36V	48V	
	RATED CURRENT	10CFM	18.4A	14.7A	9.2A	8.1A	6.1A	4.6A
		Convection	11.7A	9.4A	5.9A	5.2A	3.9A	3A
	RATED POWER	10CFM	220.8W	220.5W	220.8W	218.7W	219.6W	220.8W
		Convection	140.4W	141W	141.6W	140.4W	140.4W	144W
	RIPPLE&NOISE (max.)	100mVp-p	100mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	11.4~12.6V	14.2~15.8V	22.8~25.2V	25.6~28.4V	34.2~37.8V	45.6~50.4V	
	VOLTAGE TOLERANCE	±2%	±2%	±1%	±1%	±1%	±1%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±1%	±1%	±0.5%	±0.5%	±0.5%	±0.5%	
	SETUP, RISE TIME	500ms, 50ms/230VAC 500ms, 50ms/115VAC						
HOLD UP TIME (Typ.)	14ms/230VAC 14ms/115VAC							
PROTECTION	OVER LOAD	105%~140% rated output power Protection type: Shut down, recovers after re-power on						
	OVER VOLTAGE	15~18V	18~24V	29~35V	35~42V	43.5~52V	56~66V	
	OVER TEMPERATURE	Protection type: Shut down, recovers after re-power on						
FUNCTION	FAN SUPPLY	12V@0.5A for driving a fan; tolerance ±15% at main output 20% rated current (10CFM)						
ENVIRONMENT	WORKING TEMP., HUMIDITY	-30~+70°C (Refer to "Derating curve"), 20~90%RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40~+85°C, 10~95%RH						

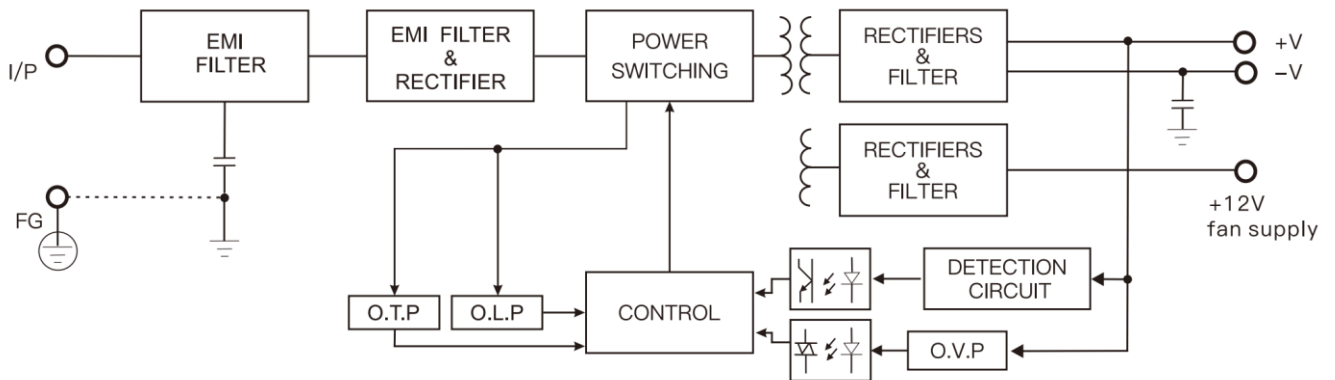
	TEMP. COEFFICIENT	±0.03%/°C(0~50°C)			
	VIBRATION	10~500Hz,2G 10min./1 cycle,each along X、Y、Z axes			
Safety and electromagnetic compatibility	Safety standards	Refer to UL62368-1,TUV EN62368-1,CCC GB4943.1,EN60601-1(2XMOPP)			
	Withstand voltage and isolation resistance	I/P-O/P:4KVac;100MΩ/500Vdc	/25°C/70%RH		
		I/P-FG:2KVac;100MΩ/500Vdc	/25°C/70%RH		
		O/P-FG:1.5KVac;100MΩ /500Vdc	/25°C/70%RH		
	Electromagnetic	Parameter	Standard	Test Level /Note	
		Conducted emission	BS EN/EN55032(CISPR32),FCC PART 15/CISPR22 ,GB9254.1		Class B
		Radiated emission	BS EN/EN55032(CISPR32),FCC PART15/CISPR22 ,GB9254.1		Class B
		Harmonic current	BS EN/EN61000-3-2,GB17625.1		Class A
		Voltage flicker	BS EN/EN61000-3-3		
	Electromagnetic compatibility immunity	BS EN/EN55035			
		Parameter	Standard		Test Level /Note
		ESD	BS EN/EN61000-4-2		Level 4,8KV air,Level 2,4KV contact,criteria A
		RF field susceptibility	BS EN/EN61000-4-3		Level 3,criteria A
EFT bursts		BS EN/EN61000-4-4		Level 3,criteria A	
Surge susceptibility		BS EN/EN61000-4-5		Level 3,1KV/L-N,2KV/L/N-FG criteria A	
Conducted susceptibility		BS EN/EN61000-4-6		Level 3,criteria A	
Magnetic field immunity		BS EN/EN61000-4-8		Level 4,criteria A	
Voltage dips and interruptions	BS EN/EN61000-4-11		>95%dip 0.5 periods,30%dip 25 periods,>95%interruptions 250 periods		
OTHERS	MTBF	≥500Khrs MIL-HDBK-217F(25°C)			
	DIMENSION	PCB:101.6*50.8*29mm(L*W*H)			
	PACKING	0.19Kg;72pcs/14.7Kg/1.18CUFT			
NOTE	<p>1.All parameters NOT specially mentioned are measured at 230VAC input,rated load and 25°C of ambient temperature</p> <p>2.Ripple & noise are measured at 20MHz of bandwidth by using a 12"twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor</p> <p>3.Tolerance:includes set up tolerance,line regulation and load regulation.</p> <p>4.Line regulation is measured from low line to high line at rated load.</p> <p>5.Load regulation is measured from 0% to 100% rated load</p> <p>6.Length of set up time is measured at cold first start,Turning ON/OFF the power supply very quickly may lead to increase of the set up time.</p> <p>7.The ambient temperature derating of 5°C/1000m is needed for operating altitude great than 2000m(6500ft)</p> <p>8.The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness.The final equipment must be re-confirmed that it still meets EMC directives</p>				

Mechanical specification

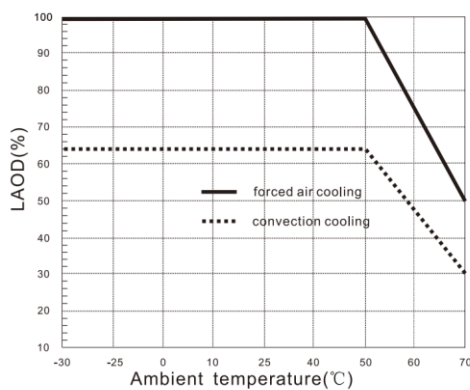


Designator	Function	Connector
CN1	AC input	CJT A3963WV-3P-A or equivalent
CN2	DC output	CJT A3963WV-6P or equivalent
CN3	12V Fan supply	CJT A2501WV-2P or equivalent

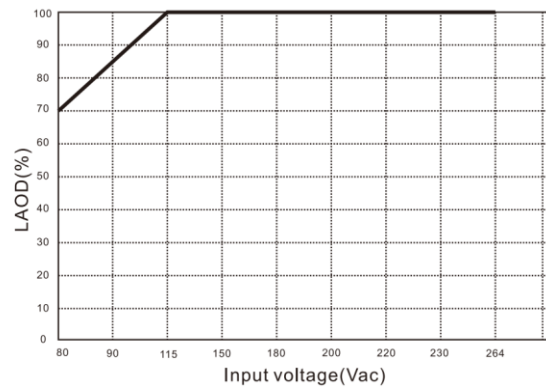
Block diagram



Derating curve



Static characteristics



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Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at www.norpas-power.com

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