

**ARF130E SERIES** 130 Watts

# **KEY FEATURES**

- Universal Input 90-264Vac
- 125W with Natural Convection
- Safety Approval to UL / IEC / EN 62368-1
- EMI for Both Class I (with PE) and Class II (without PE) Configuration
- No Load Power Consumption<0.3W
- -30°C to +80°C Wide Range Operation Temperature
- Operating Altitude 5000M
- Active PFC Function
- I/O Isolation 4000VAC
- 3-Year Product Warranty





#### **ELECTRICAL SPECIFICATIONS**

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

	ARF130E-12S	ARF130E-24S	ARF130E-48S			
attage (with 10CFM FAN) (W)	130 W					
attage (Conduction Cooling)	130 W					
attage (Natural Convection)	105 W (100 VAC) / 119 W (230 VAC)	110 W (100 VAC) / 120 W (230 VAC)	115 W (100 VAC) / 125 W (230 VAC)			
Voltage (Note 3)		90-264 VAC				
Frequency (Hz)		47-63 Hz				
Current (Full load)		< 2.0 A max. (115 VAC) / < 1.0 A max. (230 VAC)				
Inrush Current (<2ms)		< 50 A max. (115 VAC) / < 85 A max. (230 VAC)				
Leakage Current	Leakage Current		< 0.1mA / 264 VAC (Touch Current)			
Power Factor (at 230 VAC)		PF>0.9 at Full Load				
No Load		< 0.3W (115 / 230 VAC)				
Voltage (V.DC.)		12V	24V	48V		
Voltage Adj Range (V.DC.)		±10% Output Voltage				
Voltage Accuracy		±2%				
Current (with 10CFM FAN) (A) (m	nax.)	10.833	5.417	2.708		
Current (Conduction Cooling) (A)	(max.)	10.333	5.417	2.708		
Current	at 100 VAC	8.75	4.583	2.396		
(Natural Convection) (A) (max.)	at 230 VAC	9.917	5	2.604		
Line Regulation		±1%				
Load Regulation (10-100%)		±1%				
Minimum Load		0%				
Maximum Capacitive Load		4,000µF	1,000µF	330µF		
Ripple & Noise (max.)	ople & Noise (max.) (Note 1)		1% Vout			
Efficiency (at 230VAC)	Efficiency (at 230VAC)		90%	91%		
Hold-up Time (at 115 VAC) (Note 2)		8 ms min.				
Over Power Protection		Protection level 1 (nominal) : Auto recovery, Hiccup mode				
		Protection level 2 (instantaneous high current) : Latch				
Over Voltage Protection		Protection level 1 (nominal) : Auto recovery				
		Protection level 2 (instantaneous high voltage): Latch				
Overt Temperature Protection		Auto recovery				
Short Circuit Protection		Protection level 1 (nominal) : Continuous, Auto recovery				
		Protection level 2 (instantaneous high current): Latch				
Input-Output (Note 4)		4000VAC or 5656VDC				
Input-PE	(Note 4)	2000VAC or 2828VDC				
Output-PE	(Note 4)	1500VAC or 2121VDC				
<i>(</i>	attage (with 10CFM FAN) (W) attage (Conduction Cooling) attage (Natural Convection)  Voltage Frequency (Hz) Current (Full load) Inrush Current (<2ms) Leakage Current Power Factor (at 230 VAC) No Load  Voltage (V.DC.)  Voltage Adj Range (V.DC.)  Voltage Accuracy Current (with 10CFM FAN) (A) (m Current (Conduction Cooling) (A) Current (Natural Convection) (A) (max.) Line Regulation Load Regulation (10-100%) Minimum Load Maximum Capacitive Load Ripple & Noise (max.) Efficiency (at 230VAC) Hold-up Time (at 115 VAC)  Over Power Protection  Over Voltage Protection  Short Circuit Protection  Input-Output Input-PE	attage (with 10CFM FAN) (W) attage (Conduction Cooling) (Note 6) attage (Natural Convection)  Voltage (Note 3) Frequency (Hz) Current (Full load) Inrush Current (<2ms) Leakage Current Power Factor (at 230 VAC) No Load  Voltage (V.DC.) Voltage Adj Range (V.DC.) Voltage Accuracy Current (with 10CFM FAN) (A) (max.) Current (Conduction Cooling) (A) (max.) Current (Natural Convection) (A) (max.) at 100 VAC (Natural Convection) (A) (max.)  Line Regulation Load Regulation (10-100%) Minimum Load Maximum Capacitive Load Ripple & Noise (max.) (Note 1) Efficiency (at 230VAC) Hold-up Time (at 115 VAC) (Note 2)  Over Power Protection  Over Voltage Protection  Short Circuit Protection  Input-Output (Note 4) Input-PE (Note 4)	ARF130E-12S     attage (with 10CFM FAN) (W)   130 W     attage (Conduction Cooling)   (Note 6)   130 W     attage (Natural Convection)   105 W (100 VAC) / 119 W (230 VAC)     Voltage	Attage (with 10CFM FAN) (W)   130 W     Attage (Conduction Cooling) (Note 6)   130 W     Attage (Natural Convection)   105 W (100 VAC) /   110 W (100 VAC) /     119 W (230 VAC)   120 W (230 VAC)     Voltage (Note 3)   90-264 VAC     Frequency (Hz)   47-63 Hz     Current (Full load)   < 2.0 A max. (115 VAC) / < 1.0 A max. (230 VAC)     Inrush Current (<2ms)   < 50 A max. (115 VAC) / < 85 A max. (230 VAC)     Leakage Current   Power Factor (at 230 VAC)   PF-0.9 at Full Load     No Load   < 0.3W (115 / 230 VAC)     Voltage (V.DC.)   12V   24V     Voltage Adj Range (V.DC.)   ±10% Output Voltage     Voltage Adj Range (V.DC.)   ±2%     Current (with 10CFM FAN) (A) (max.)   10.833   5.417     Current (Conduction Cooling) (A) (max.)   10.333   5.417     Current (Conduction Cooling) (A) (max.)   10.333   5.417     Current (Ratural Convection) (A) (max.)   at 100 VAC   8.75   4.583     (Natural Convection) (A) (max.)   at 230 VAC   9.917   5     Line Regulation   ±1%     Load Regulation (10-100%)   ±11%     Maximum Capacitive Load   4.000µF   1.000µF     Ripple & Noise (max.)   (Note 1)   160mV   1% Vout     Efficiency (at 230VAC)   90%   90%     Maximum Capacitive Load   4.000µF   1.000µF     Ripple & Noise (max.)   (Note 1)   160mV   1% Vout     Efficiency (at 230VAC)   90%   90%     Over Power Protection   Protection level 1 (nominal) : Auto recovery, Hiccup mo     Protection level 2 (instantaneous high current) : Latch     Pro		

update: 2020.08.27

VER: A\_1



ARF130E SERIES 130 Watts

#### **ELECTRICAL SPECIFICATIONS**

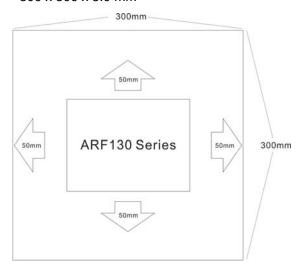
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.	Model No.			ARF130E-24S	ARF130E-48S	
Environment	Operating Temperature		-30°C+80°C (with derating)			
	Storage Temperature		-30°C+80°C			
	Temperature Coefficient		±0.05%/°C			
	Altitude During Operation		5000m			
	Humidity		20~90% RH			
	MTBF		>250,000 h @ 25°C (MIL-HDBK-217F, Notice 1)			
	Vibration		IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)			
	Shock		IEC60068-2-27			
Physical	Dimensions (L x W x H)		$3.15 \times 2.35 \times 1.7$ Inches ( $80.0 \times 59.7 \times 43.2$ mm ) Tolerance $\pm 0.5$ mm			
	Weight		292 g			
	Cooling Method		Natural Convection / Conduction Cooling / 10CFM FAN			
Safety	Approval		UL / IEC / EN 62368 (In Progress)			
EMC	Conducted EMI	(Note 5)	EN55032 Class B (In Progress)			
	Radiated EMI	(Note 5)	EN55032 Class I Class B / Class II Class A (In Progress)			
	EMS		EN55035 (In Progress)			

### **NOTE**

- 1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
- 2. Hold-up Time measured at 90% Vout.
- 3. Please check the derating curve for more details.
- 4. Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors from Arch power supply.
- 5. Please secure the power supply unit to your metal case by using the four screw holes in the corners for either Class I or Class II equipment
- 6. The size of the suggested aluminum plate is shown as below. And for optimizing thermal performance, the aluminum plate must have an even and smooth surface (or coated with thermal grease), and ARF130 series must be firmly mounted at the center of the aluminum plate.

300 x 300 x 3.0 mm



- 7. CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.
- 8 The ambient temperature derating of 3.5 /1000m with fanless models and of 5 /1000m with fan models for operating altitude higher.

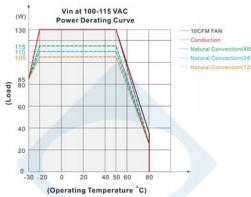
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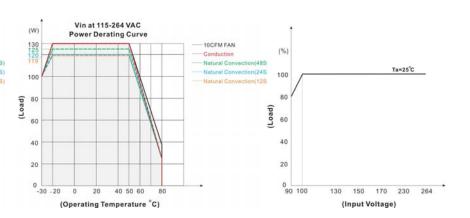


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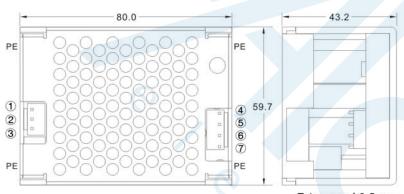
## **DERATING**



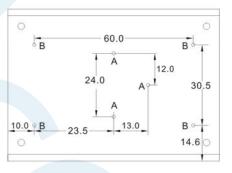
If input voltage is lower than 100VAC, please refer to the output derating V.S. input voltage curve for details



# MECHANICAL DIMENSIONS (Top View)



Tolerance ±0.5 mm



A= For fixture to chassis only A=M3x0.5P B=For fixture to pcb/chassis only B=M3x0.5P Torque:3±0.5 Kgf.cm

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20.0	7_			
(CASE)			38	4.04

40.0

В	Brands Alex		Alex		ST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
1	AC IN (N)					
2	NO PIN	9396-3	9396-3 96T series	VHR-3N	SVH-41T-P1.1	
3	AC IN (L)					
4~5	+DC OUT	0000.4	OCT assiss	\/\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	CVIII 44T D4 4	
6~7	-DC OUT	9396-4	96T series	VHR-4N	SVH-41T-P1.1	
8	PE	_	_	_	_	

## **ASSEMBLY INSTRUCTIONS**

\*U Case T=2.5mm

Customer is advised to screw into the threads no more than 2.5mm

