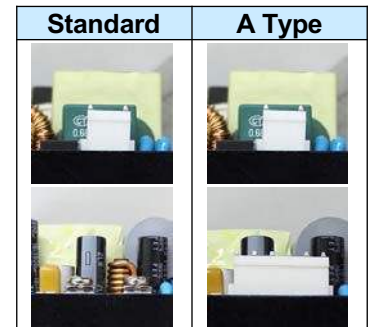


**240 Watts**

AC-DC Switching Power Supply

## KEY FEATURES

- Universal Input 90-264Vac
- 240 Watt with 8CFM Forced Air and Natural Convection
- High Efficiency up to 94%
- Safety Approval to UL / IEC / EN 62368-1
- No Load Power Consumption < 0.5W
- -30°C to +80°C Wide Range Operation Temperature
- Operating Altitude 5000M
- Active PFC Function
- I/O Isolation 4000VAC
- EMI for Both Class I (with PE) and Class II (without PE) Configuration



Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.



## ELECTRICAL SPECIFICATIONS

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

Model No.		HD240E-112	HD240E-124	HD240E-148	
Max Output Wattage (with 8CFM FAN) (W)		240 W			
Max Output Wattage (Conduction Cooling) (W) (Note 6)		240 W			
Max Output Wattage (Natural Convection) (W)		210 W (100 VAC) / 234 W (230 VAC)	215 W (100 VAC) / 240 W (230 VAC)		
Input	Voltage (Note 3)	90-264 VAC			
	Frequency (Hz)	47-63 Hz			
	Current (Full load)	< 3.0 A max. (115 VAC) / < 1.5 A max. (230 VAC)			
	Inrush Current (<2ms)	< 45 A max. (115 VAC) / < 90 A max. (230 VAC)			
	Leakage Current	< 0.1mA / 264 VAC (Touch Current)			
	Power Factor	PF>0.9 at Full Load			
	No Load	< 0.5W (115 / 230 VAC)			
Output	Voltage (V.DC.)	12V	24V	48V	
	Voltage Adj Range (V.DC.)	±5% Output Voltage			
	Voltage Accuracy	±2%			
	Current (with 8CFM FAN) (A) (max.)	20	10	5	
	Current (Conduction Cooling) (A) (max.)	20	10	5	
	Current (Natural Convection) (A) (max.)	at 100 VAC	17.5	8.96	4.48
		at 230 VAC	19.5	10	5
	Line Regulation	±1%			
	Load Regulation (0-100%)	±1%			
	Minimum Load	0%			
	Maximum Capacitive Load	8000µF	3000µF	470µF	
	Ripple & Noise (max.) (Note 1)	1% Vout			
	Efficiency (at 230VAC) (Note 5)	92.5%	93%	94%	
Hold-up Time (at 115 VAC) (Note 2)	10 ms min.				
Protection	Over Power Protection	Auto recovery(110-210%), Hiccup mode			
	Over Voltage Protection	Auto recovery			
	Over Temperature Protection	Auto recovery			
	Short Circuit Protection	Protection level 1 (nominal) : Continuous, Auto recovery			
Protection level 2 (instantaneous high current) : Latch					
Isolation	Input-Output (Note 4)	4000VAC or 5656VDC			
	Input-PE (Note 4)	2000VAC or 2828VDC			
	Output-PE (Note 4)	1500VAC or 2121VDC			

## ELECTRICAL SPECIFICATIONS

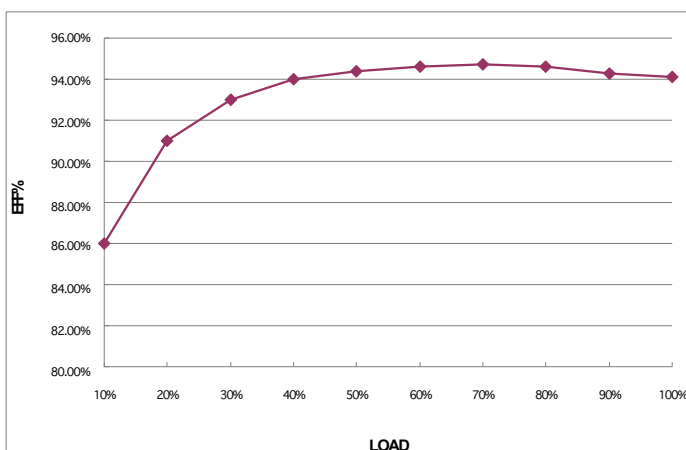
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.	HD240E-112		HD240E-124	HD240E-148
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 (Acceleration:50G ; pulse duration:11ms ; Filter:500Hz)		
Physical	Dimensions (L x W x H)	4.1 x 2.46 x 1.54 Inches ( 104.0 x 62.5 x 39.2 mm ) Tolerance ±0.5 mm		
	Weight	365 g		
	Cooling Method	Natural Convection / Conduction Cooling / 8CFM FAN		
Safety	Approval	UL 60950-1, UL / IEC / EN 62368-1		
Parameter	Standards & Level			Performance
EMI	Conducted (Note 6)	EN55032		Class B
	Radiated (Note 6)	EN55032		Class I Class B / Class II Class A
Harmonic	Harmonic currents	EN61000-3-2 (Full Load)		Class A
EMS	EN 55035			A
	ESD	IEC 61000-4-2 Air ± 8KV , Contact ± 4KV		A
	RS	IEC 61000-4-3 3V/m		A
	EFT/B	IEC 61000-4-4 ± 1KV , ± 2KV(L/N-PE)		A
	Surge	IEC 61000-4-5 ± 1KV , ± 2KV(L/N-PE)		A
	CS	IEC 61000-4-6 3Vrms		A
	PFMF	IEC 61000-4-8 1A/m		A

## 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 Digital Power Corporation power supply.

5. Vin at 230 VAC & 48 Vout

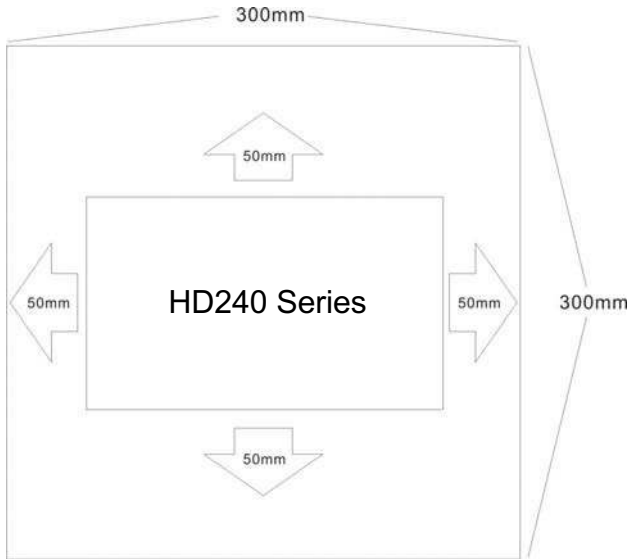


(After 30 minutes of burn-in)

**NOTE**

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 ARF240 series must be firmly mounted at the center of the aluminum plate.

300 x 300 x 3.0 mm



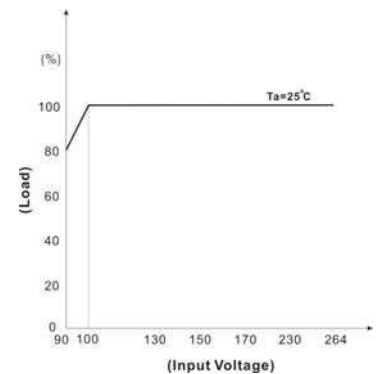
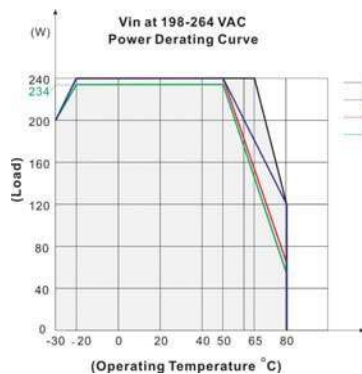
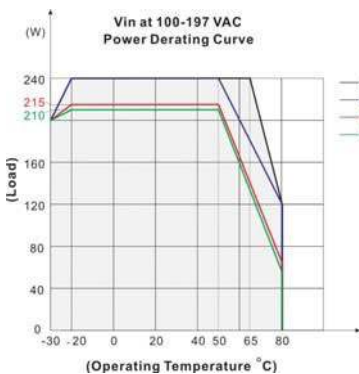
7. Please secure the power supply unit to your metal case by using the four screw holes in the corners for either Class I or Class II equipment

8. The ambient temperature derating of 3.5 /1000m with fanless models and of 5 /1000m with fan models for operating altitude higher than 2000m(6500ft).

**9. CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.**

**(ATTENTION : 2 poles avec fusible sur le neutre. Deconnecter le secteur avant intervention.)**

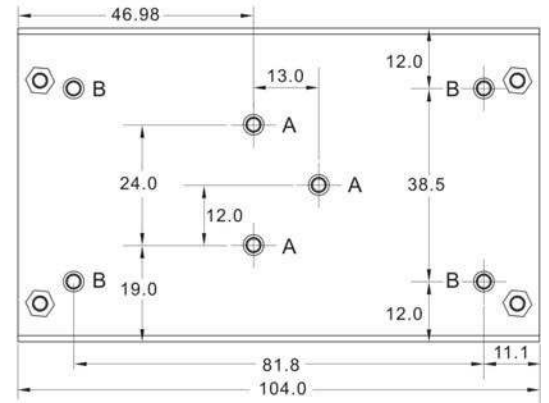
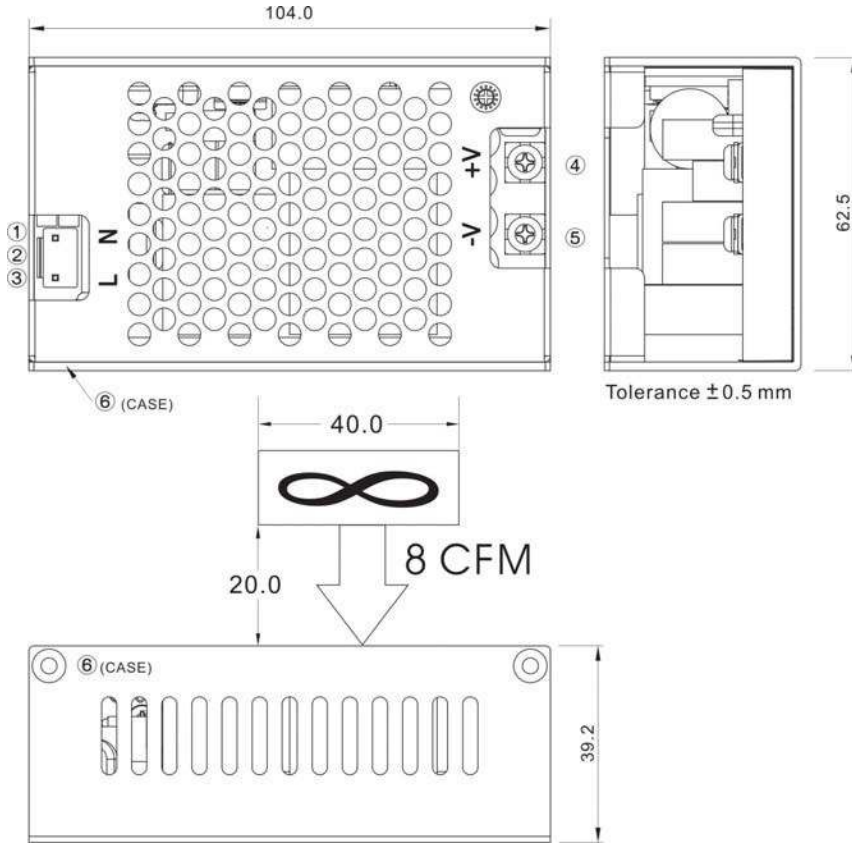
**DERATING**



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

**MECHANICAL DIMENSIONS ( Top View )**

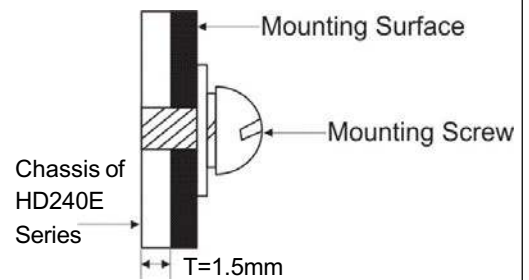
**Standard**



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

**ASSEMBLY INSTRUCTIONS**

\*U Case T=1.5mm  
Customer is advised to screw into the threads no more than 1.5mm



Brands		Alex		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
1	AC IN (N)	9396-3	96T series	VHR-3N	SVH-41T-P1.1
2	NO PIN				
3	AC IN (L)				
4	+DC OUT	Terminal : M3.5 Pan HD screw in 2 positions Torque to 8 lbs-in(90 cNm) max.			
5	-DC OUT				
6	PE	—	—	—	—

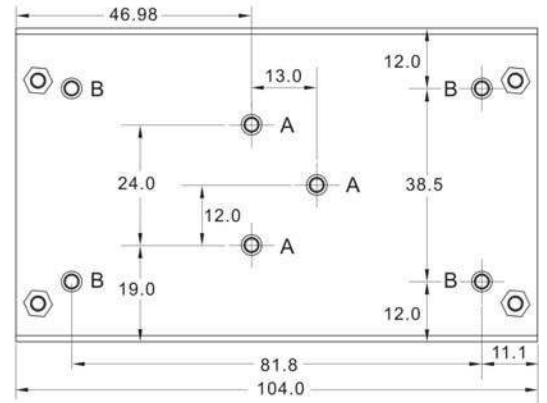
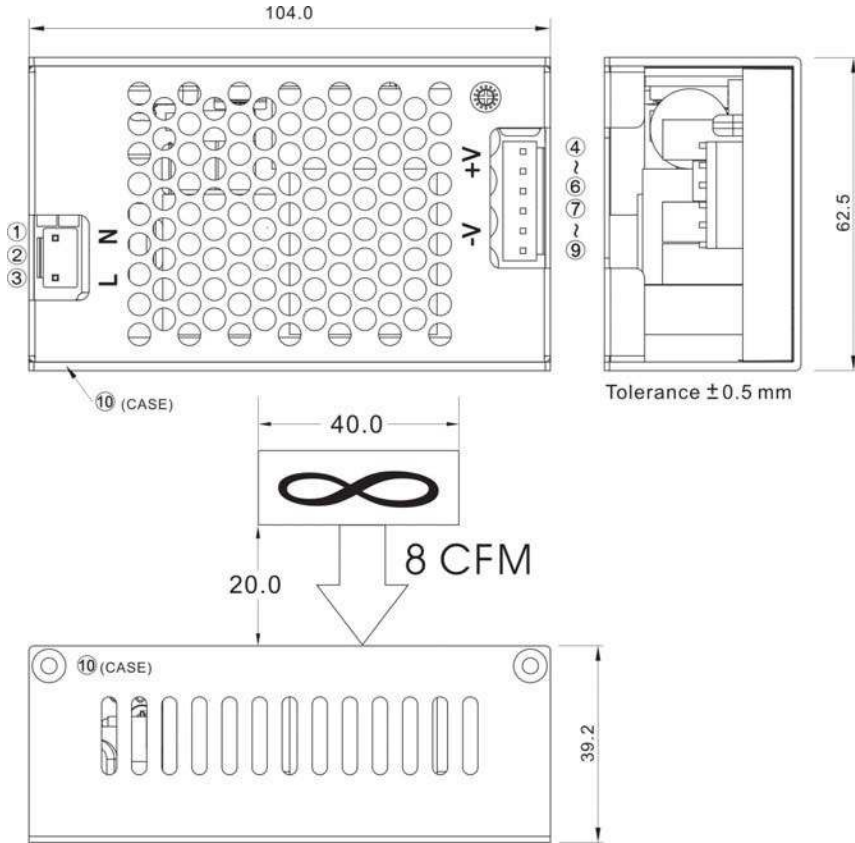
**Standard**



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**MECHANICAL DIMENSIONS ( Top View )**

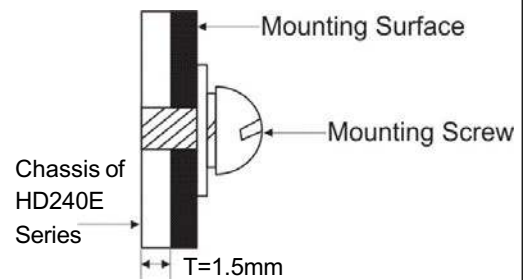
**A Type**



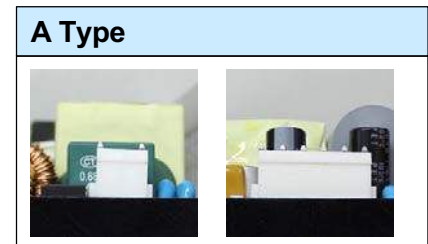
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3	AC IN (L)				
4-6	+DC OUT	9396-6	96T series	VHR-6N	SVH-41T-P1.1
7-9	-DC OUT				
10	PE	-	-	-	-



Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.