

AMEOF225-HAMJZ







The AMEOF225-HAMJZ series is one of Aimtec's compact (2"x4"x1") 225W AC/DC converter with active PFC and is suitable for medical equipment. It features a universal AC input, which also accepts a DC input voltage, is costeffective, has a high efficiency and high reliability and comes with double or reinforced isolation.

These converters offer excellent EMC and safety performance, which with UL62368-1, ES60601-1 approvals and meets IEC/EN62368-1, GB4943, EN60335-1, IEC/EN61558-1, IEC/EN60601-1 standards and can be widely used in industrial, LED, street light control, security, telecommunications, smart home and medical applications.

Features



- Universal Input: 85 264VAC/120 370VDC
- Active power factor correction
- Low leakage current: 0.1mA max.
- High isolation voltage: 4000VAC
- Output short circuit, over-current, over-voltage, over temperature protection
- Low no-load power consumption of 0.3W
- Suitable for Type BF application
- Approvals UL62368-1, ES60601-1; EN62368-1
- Designed to meet IEC62368-1, EN60335-1, IEC/EN61558-1, IEC/EN60601-1



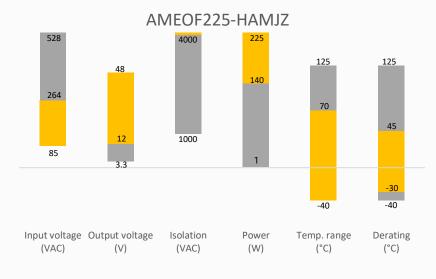






Summary





Training





Press Release

Coming Soon!

Application Notes

Applications









Power Grid

Industrial

Telecom

Medical

Product Training Video (click to open)



Models & Specifications



Single Output										
Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Cooling method	Max Output wattage (W)	Output Voltage (V)	Output Voltage Adjustable Range (V)	Max Output Current (A)	Maximum capacitive load (μF)	Efficiency @230VAC Typ. (%)	
AMEOF225-12SHAMJZ	85-264/	120-370	Free air	140	12	11.8-12.6	11.67	6000	93	
AIVIEOI 223 123HAIVII2	47-63	120 370	13CFM	225	12	11.0 12.0	18.75	0000	93	
AMEOF225-15SHAMJZ	85-264/	120-370	Free air	140	15 14.7-15.8	9.33	5000	93		
AIVILOF225-133HAIVIJ2	47-63	120-370	13CFM	225	13	14.7-15.8	15	5000	93	
AMEOF225-24SHAMJZ	85-264/	120-370	Free air	140	24	23.5-25.2	5.83	3200	94	
AIVIEUF225-243HAIVIJZ	47-63	120-370	13CFM	225	24		9.4	9.4	3200	94
ANAFOF22F 27CHANAI7	85-264/	120 270	Free air	130	27	26.5-28.4	4.81	2400	94	
AMEOF225-27SHAMJZ	47-63	120-370	13CFM	225	27		20.5-28.4	20.5-28.4	8.35	2400
ANAFOE22E 2CCUANAIZ	85-264/	120 270	Free air	140	20	35.28-37.8	3.88	2000	94	
AMEOF225-36SHAMJZ	47-63	120-370	13CFM	225	36		6.25	2000		
ANAFOE22F 40CHAN417	85-264/ 47-63 120-370 Free air 140 13CFM 225	40		2.91	4500	0.4				
AMEOF225-48SHAMJZ		120-370	13CFM	225	48	47.1-50.4	4.7	1600	94	
ANAFOF22F F4CHAN417 W	85-264/	5-264/	Free air	140	- 4		2.59	4000	0.4	
AMEOF225-54SHAMJZ	-54SHAMJZ X 47-63 120-370	13CFM	225	54	52.5-55.5	4.17	1000	94		
Add suffix -F for enclosed package. (ex. AMEOF225-12SHAMJZ-F is enclosed package version)										

Input Specifications					
Parameters	Conditions	Typical	Maximum	Units	
Industrial constant	115VAC		3	Α	
Input current	230VAC		2	Α	
Inrush current	115VAC, cold start	40		Α	
illi usii cuirelic	230VAC, cold start	75		Α	
Leakage	240VAC, normal condition		0.1	mA	
Leakage	240VAC, single fault condition		0.5	mA	
Power factor	115VAC, 100% load	≥0.99			
Power lactor	230VAC, 100% load	≥0.95			

Output Specifications					
Parameters	Conditions	Typical	Maximum	Units	
Voltage accuracy		±1		%	
Line regulation	e regulation Full load ±0.5		%		
Load regulation 0-100% load ±0.5		%			
	12V, 15-100% load		60	mV p-p	
	15, 24, 27, 36, 48V, 15-100% load		100	mV p-p	
Ripple & Noise*	54V, 15-100% load		200	mV p-p	
Rippie & Noise	12V, 0-15% load		120	mV p-p	
	15, 24, 27, 36, 48V, 0-15% load		200	mV p-p	
	54V, 0-15% load		400	mV p-p	
Hold up time	230VAC, Free air convection	≥16		ms	
Hold up time	230VAC, 13CFM	≥12		ms	



* Ripple and Noise are measured at 20MHz bandwidth. Open frame models are measured with a 10µF electrolytic capacitor and a 0.1µF ceramic capacitor. Enclosed models are measured with a 47µF electrolytic capacitor and a 0.1µF ceramic capacitor. Please refer to the application note for specific details.

Isolation Specification					
Parameters	Conditions	Typical	Maximum	Units	
Tested I/O voltage	60 sec, leakage ≤ 10mA	≥4000		VAC	
Tested I, O/PE voltage	60 sec, leakage ≤ 10mA	≥1500 VAC			
Resistance I/O*	500VDC	>50 MΩ			
Resistance I, O/PE*	500VDC	>50		ΜΩ	
MOP I/O	2xMOPP				
MOP I, O/PE 1xMOPP					
* Tested under 25±5°C ambient temperature with relative humidity <95% and no condensation.					

Parameters	Conditions	Typical	Maximum	Units	
Protection class	Class II without protective earth connectio	Class II without protective earth connection, Class I with protective earth connection			
Over current protection	Auto recovery, hiccup	≥ 110		% of lout	
	12Vout, shut down, manual recovery		16	VDC	
	15Vout, shut down, manual recovery		20	VDC	
Over voltage protection	24Vout, shut down, manual recovery		32	VDC	
ver voltage protection	27Vout, shut down, manual recovery		35	VDC	
	36Vout, shut down, manual recovery		50	VDC	
	48, 54Vout, shut down, manual recovery		60	VDC	
hort circuit protection	Hiccup, Continuous, Au	uto recovery time <	:3S		
Over temperature protection	Shut down, manual recovery after the t	emperature drops	below the threshold	l	
an manuar	15V 24V/0.25A, Voltage accuracy ±1			cy ±15%	
an power	12, 24, 27, 36, 48, 54V 12V/0.5A, Voltage accur		5A, Voltage accurac	acy ±15%	
lo-load power consumption		0.5		W	
perating temperature	See derating graph	-40 to +70		°C	
torage temperature		-40 to +85		°C	
	-40 °C to -30 °C, forced air convection 13CFM	2.0		%/°C	
	+50 °C to +70 °C, forced air convection 13CFM	2.5		%/°C	
ower Derating	+45 °C to +70 °C, free air convection, open frame	2.0		%/°C	
	+40 °C to +70 °C, free air convection, enclosed	2.0		%/°C	
	85VAC to 115VAC	1.0		%/VAC	
emperature coefficient		±0.03		%/°C	
ooling	Free air convection, force	ed air convection 13	3CFM		
	Non-condensing, storage	>10	95	% RH	
lumidity	Non-condensing, operating	>20	90	% RH	
ase material	Enclosed package				
/-:-ba	Open frame	175		g	
Veight	Enclosed	260		g	
im and and (1 a) March 1	Open frame	4.00 x 2.00 x 1.	00 inches (101.6 x 5	0.8 x 25.4 mm	
imensions (L x W x H)	Enclosed 4.07 x 2.44 x 1.46 inches (103.4 x 62.0 x 37.0 mm)				
1TBF	> 300 000 hrs (MIL-H		•		

output load unless otherwise specified.

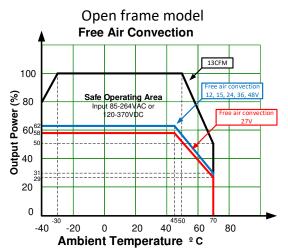


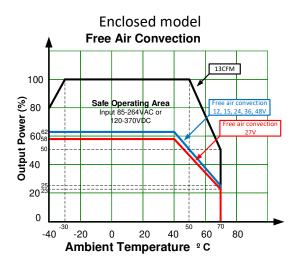
Safety Specifications					
CE EN62368-1 cULus UL 62368-1; UL60601-1(AMSI/AAMI ES60601-1 V3.1)(* With exception of 54Vout model)					
Design to meet IEC62368-1, EN60335-1, IEC/EN61558-1, IEC/EN60601-1, CAN/CSA-C22.2 No.60601-1:14 Ed3, EN60601-1-2 Ed4, GB4943-1					
EMC - Conducted and radiated emission*	CISPR32 / EN55032, conducted class B CISPR32 / EN55032, radiated class B with protective earth connection CISPR32 / EN55032, radiated class A without protective earth connection				
EMC - Harmonic current emissions*	IEC 61000-3-2 class D				
Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±8KV, Air ±15KV, Criteria A				
RF, Electromagnetic Field Immunity	IEC 61000-4-3 10V/m, Criteria A				
Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±4KV, Criteria A				
Surge Immunity	IEC 61000-4-5 L-L ±2KV L-G ±4KV, Criteria A				
RF, Conducted Disturbance Immunity	IEC 61000-4-6 10Vr.m.s, Criteria A				
Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 0%, 70%, Criteria B				
	CE EN62368-1 cULus UL 62368-1; UL60601-1(AMSI/AAMI ES6 Design to meet IEC62368-1, EN60335-1, IEC/EN Ed4, GB4943-1 EMC - Conducted and radiated emission* EMC - Harmonic current emissions* Electrostatic Discharge Immunity RF, Electromagnetic Field Immunity Electrical Fast Transient/Burst Immunity Surge Immunity RF, Conducted Disturbance Immunity				

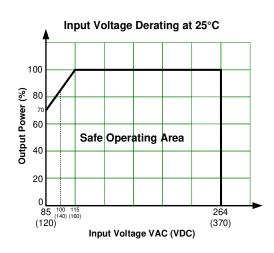
^{*} The power supply is considered as a component and will be installed in an end-product. All the EMC tests are performed with the power supply mounted on a 1mm thick 360mm x 360mm metal plate. The EMC compliance of the end-product must be reconfirmed.

Derating







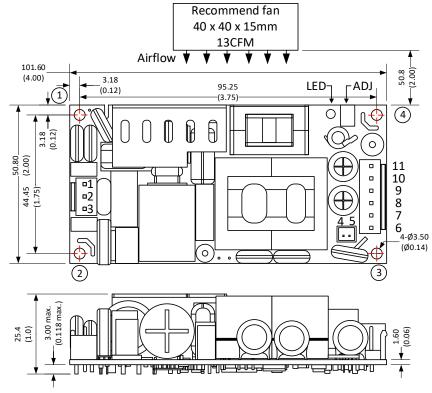


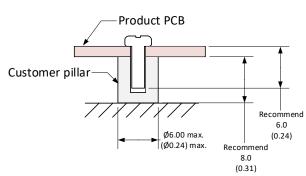


Dimensions



Open frame model





Note: Unit: mm [inch] General tolerance: ±1.00 (±0.04) Mounting screw: M3 Mounting screw tightening torque: 0.4N max.

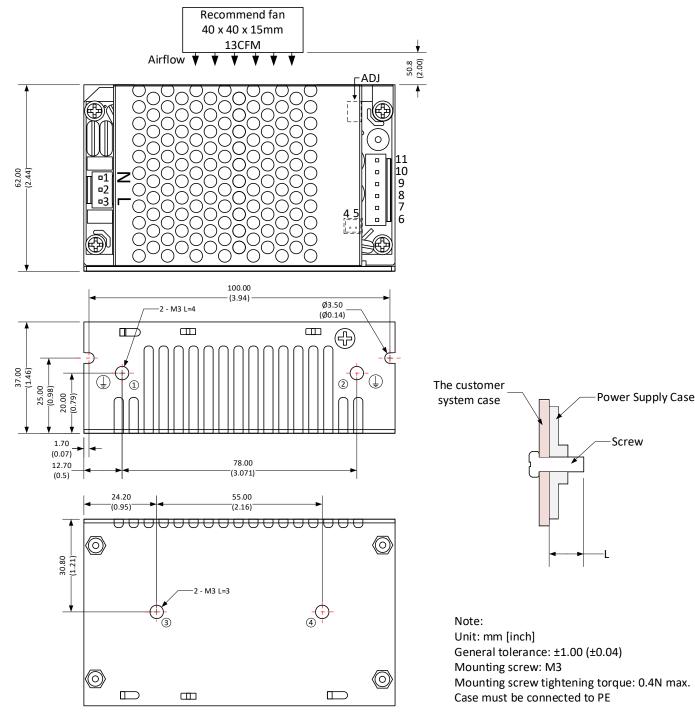
Note:

- It is needed to have ≥ 10mm distance between the product and external components for safety.
- 2. Connect mounting point 1 and 3 to protective earth for Class I system.
- 3. Connect mounting point 1 and 3 together for Class II system.

Pin Output Specifications						
Pin	Function	Connector	Recommended connector			
1	AC Input (N)/ -V Input	JST B3P-VH	JST VHR,			
2	NC	or equivalent	JST SVH-21PT-P1.1			
3	AC Input (L)/ +V Input	or equivalent	or equivalent			
4	- Fan Output	JST B2B-PH-K-S	JST PHR, JST SPH-002T-P0.5S			
5	+ Fan Output	or equivalent	or equivalent			
6	-V Output					
7	-V Output		JST VHR, JST SVH-21PT-P1.1			
8	-V Output	JST B6P-VH				
9	+V Output	or equivalent	or equivalent			
10	+V Output		or equivalent			
11	+V Output					



Enclosed model



NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. **2.** Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. **3.** Mechanical drawings and specifications are for reference only. **4.** All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. **5.** Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. **6.** This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.