

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 cost-effective, 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





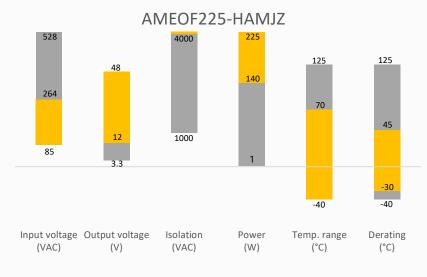






Summary





Training





Coming Soon!

Coming 300

Product Training Video (click to open)

Application Notes

Applications









Power Grid

Industrial

Telecom

Medical



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
AIVIEOTZZS IZSTIAIVISZ	47-63	120 370	13CFM	225	12	11.0 12.0	18.75	0000	93
AMEOF225-15SHAMJZ	85-264/ 47-63	120-370	Free air	140	15	14.7-15.8	9.33	5000	93
AIVILOFZZS-133HAIVIJZ		120-570	13CFM	225	15		15		93
AMEOF225-24SHAMJZ	85-264/	120-370	Free air	140	24	23.5-25.2	5.83 3200	2200	94
AIVIEUF223-243HAIVIJ2	47-63	120-370	13CFM	225	24	25.5-25.2	9.4	3200	94
ANAFOE22E 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	21	20.5-28.4	8.35	2400	94
AMEOF225-36SHAMJZ	/I/7 120-370 120-370	120 270	Free air	140	36	25 20 27 0	3.88	2000	94
AIVIEUF225-303HAIVIJZ		13CFM	225	36 35.28-37.8	6.25	2000	94		
ANAFOE22E 40CHANAIZ	85-264/ 47-63 120-3	120 270	Free air	140	48 47	47.1-50.4	2.91	1600	94
AMEOF225-48SHAMJZ		120-370	13CFM	225			4.7		
ANAFOE22E E 4CHANAIZ W	85-264/ 47-63 120-370	120 270	Free air	140	F4 F2 F FF F	F2 F FF F	2.59	1000	0.4
AIVIEUFZZ5-54SHAIVIJZ 💥		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	
Input current	115VAC		3	Α	
Input current	230VAC		2	Α	
Inrush current	115VAC, cold start	40		Α	
illrusii curreiit	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 factor	230VAC, 100% load	≥0.95			

Output Specifications					
Parameters	Conditions	Typical	Maximum	Units	
Voltage accuracy	±1			%	
Line regulation	Line 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	
Kippie & 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 10μ F electrolytic capacitor and a 0.1μ F ceramic capacitor. Enclosed models are measured with a 47μ F electrolytic capacitor and a 0.1μ F 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		ΜΩ	
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.					

General Specifications					
Parameters	Conditions	Typical	Maximum	Units	
Protection class	Class II without protective earth connection	n, Class I with prote	ective earth connec	tion	
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	
Over voitage protection	27Vout, shut down, manual recovery		35	VDC	
	36Vout, shut down, manual recovery		50	VDC	
	48, 54Vout, shut down, manual recovery		60	VDC	
Short circuit protection	Hiccup, Continuous, Au	to recovery time <	3S		
Over temperature protection	Shut down, manual recovery after the temperature drops below the threshold				
Fan power	15V 24V/0.25A, Voltage ac		5A, Voltage accura	uracy ±15%	
raii powei	12, 24, 27, 36, 48, 54V 12V/0.5A, Voltage accuracy		cy ±15%		
No-load power consumption		0.5		W	
Operating temperature	See derating graph	-40 to +70		°C	
Storage 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	
Power 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	
Temperature coefficient	±0.03		%/°C		
Cooling	Free air convection, forced air convection 13CFM				
I I considitor	Non-condensing, storage	>10	95	% RH	
Humidity	Non-condensing, operating	>20	90	% RH	
Case material	Enclosed package Metal (1100 Aluminum, SUS304)		US304)		
Weight	Open frame	175		g	
- vveignt-	Enclosed	260		g	
Dimensions (L v W v H)	Open frame	4.00 x 2.00 x 1.00 inches (101.6 x 50.8 x 25.4 mm)			
Dimensions (L x W x H)	Enclosed 4.07 x 2.44 x 1.46 inches (103.4 x 62.0 x 37.0 r		62.0 x 37.0 mm)		
MTBF	> 300 000 hrs (MIL-HDBK -217F, t=+25°C)				
NOTE: All aposifications in this dates	hast are massived at an ambient townsystime of 20°C b				

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

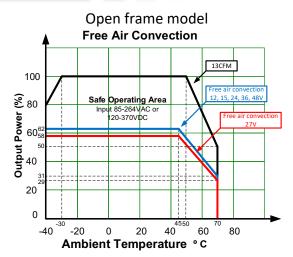


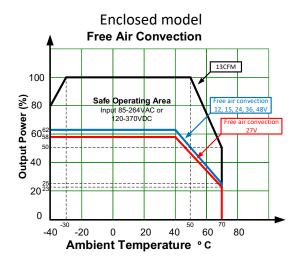
Safety Specifications					
Parameters					
Agency approvals	CE EN62368-1 cULus UL 62368-1; UL60601-1(AMSI/AAMI ES60601-1 V3.1)(** With exception of 54Vout model)				
	Design to meet IEC62368-1, EN60335-1, IEC/EN61558-1, IEC/EN60601-1, CAN/CSA-C22.2 No.60601-1:14 Ed3, EN60601-1-2 Ed4, GB4943-1				
	EMC - 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 connectio			
Chandanda	EMC - Harmonic current emissions*	IEC 61000-3-2 class D			
Standards	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			
* The newer supply is considered as a component and will be installed in an end product. All the EMC tests are performed with the newer supply					

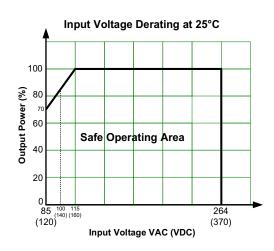
^{*} The power supply is considered as a component and will be installed in an end-product. All the EMC tests are performed with the power supply mounted on a 1mm thick 360mm x 360mm metal plate. The EMC compliance of the end-product must be reconfirmed.

Derating







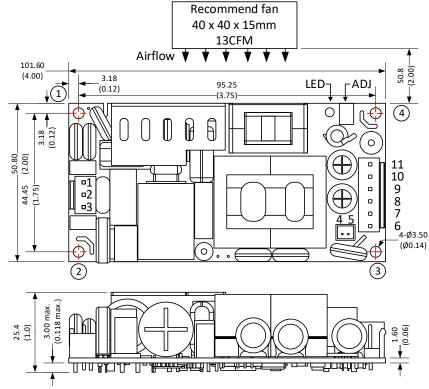


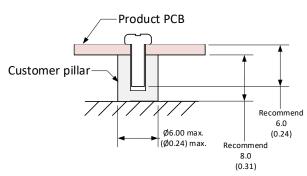


Dimensions



Open frame model





Note: Unit: mm [inch] General tolerance: ±1.00 (±0.04) Mounting screw: M3

Mounting screw tightening torque: 0.4N $\, \text{max}.$

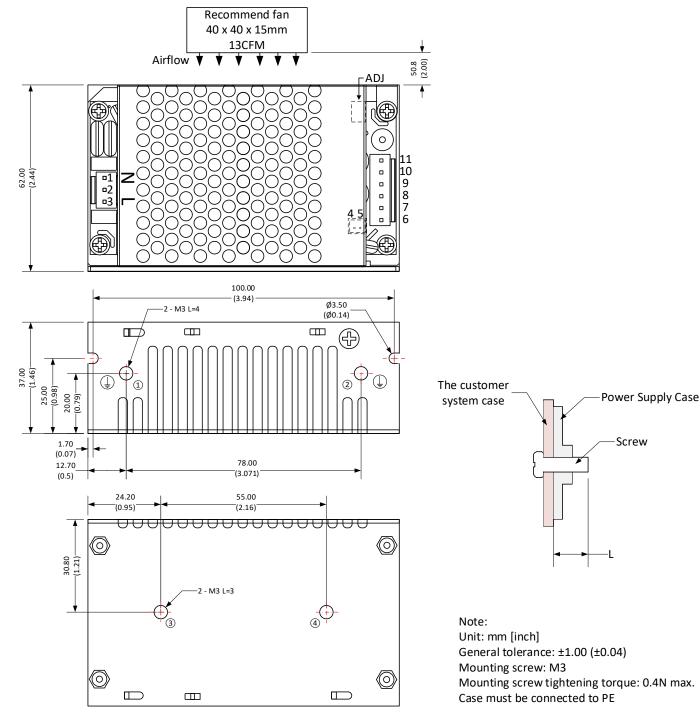
Note:

- 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		ICT VIID			
8	-V Output	JST B6P-VH	JST VHR, JST SVH-21PT-P1.1			
9	+V Output	or equivalent	or equivalent			
10	+V Output		or equivalent			
11	+V Output					



Enclosed model



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