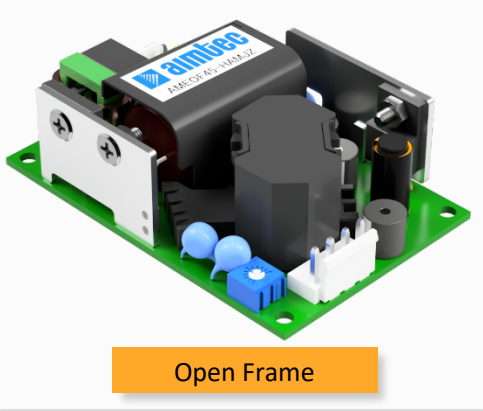


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samples

AMEOF45-HAMJZ



Open Frame

The AMEOF45-HAMJZ series is one of Aimtec’s compact size 45W AC/DC converter, which is suitable for medical equipment. It features a universal AC input and accepts a DC input voltage, while also coming standard with high efficiency, high reliability and double or reinforced isolation. These converters offer excellent EMC and safety performance, which with ES60601-1, EN62368-1 approval and meet IEC/UL62368-1, IEC/EN60335-1, IEC/EN61558-1, IEC/EN60601-1, GB4943.1 standards. This series is suitable for industrial, streetlight control, security, telecommunications, smart home and medical applications.

Features

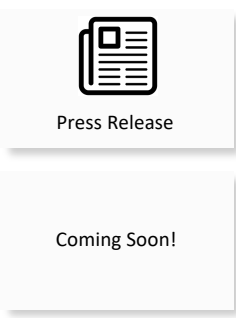
- Universal Input: 80 - 264VAC/100 - 370VDC
- Low leakage current: 0.075mA max.
- High isolation voltage: 4000VAC
- Output short circuit, over-current, over-voltage protection
- Low no-load power consumption of 0.3W
- Suitable for Type BF application
- Meets 2xMOPP
- Certified : ES60601-1, EN62368-1
- Designed to meet IEC/UL62368-1, IEC/EN60335-1, IEC/EN61558-1, GB4943.1,



Training

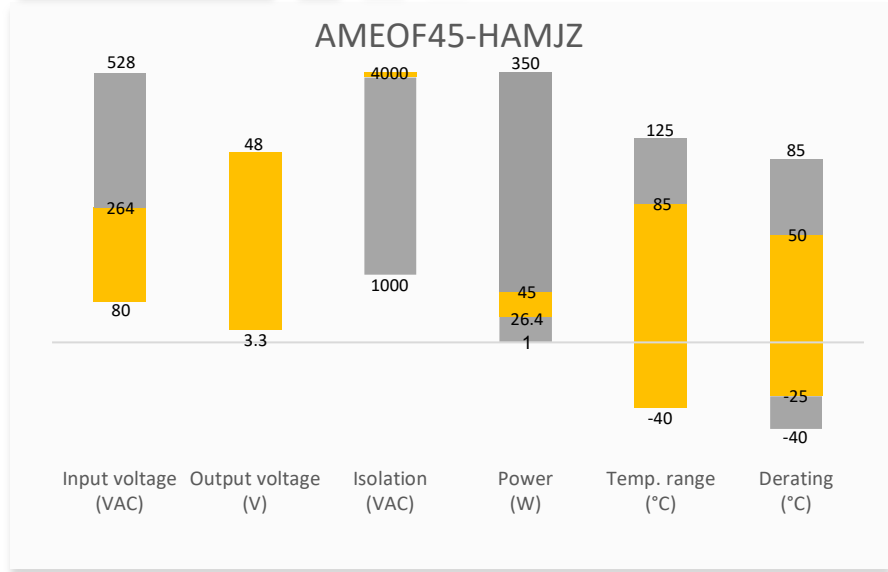


Product Training Video
(click to open)

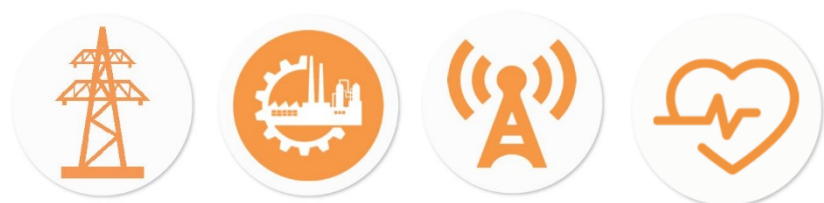


Application Notes

Summary



Applications



Power Grid

Industrial

Telecom

Medical

Models & Specifications

Single Output								
Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Nominal Output wattage (W)	Output Voltage (V)	Output Voltage Adjustable Range (V)	Output Current (A)	Maximum capacitive load (μ F)	Efficiency @230VAC Typ. (%)
AMEOF45-3SHAMJZ	80-264/47-63	100-370	26.4	3.3	2.97-3.63	8	20000	83
AMEOF45-5SHAMJZ	80-264/47-63	100-370	40	5	4.5-5.5	8	20000	85
AMEOF45-12SHAMJZ	80-264/47-63	100-370	45	12	10.2-13.8	3.75	4000	90
AMEOF45-15SHAMJZ	80-264/47-63	100-370	45	15	13.5-18	3	3500	90
AMEOF45-24SHAMJZ	80-264/47-63	100-370	45	24	21.6-28.5	1.875	1000	90
AMEOF45-36SHAMJZ	80-264/47-63	100-370	45	36	32.4-39.6	1.25	820	90
AMEOF45-48SHAMJZ	80-264/47-63	100-370	45	48	43.2-52.8	0.94	330	90

Add suffix -F for enclosed package. (ex. AMEOF45-12SHAMJZ-F is enclosed package version)

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC		1.1	A
	230VAC		0.7	A
Inrush current	115VAC		40	A
	230VAC		60	A
Leakage	240VAC		0.075	mA

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	3.3, 5V, 0-100% load	± 2		%
	Others, 0-100% load	± 1		%
Line regulation	3.3, 5V, 100% load	± 0.8		%
	Others, 100% load	± 0.5		%
Load regulation	230VAC	± 1		%
Ripple & Noise*	3.3, 5, 12, 15V, tested with a 10 μ F ceramic capacitor	75	100	mV p-p
	24V, tested with a 1 μ F ceramic capacitor	80	120	mV p-p
	36, 48V, tested with a 0.1 μ F ceramic capacitor	100	150	mV p-p
Hold up time	115VAC	≥ 13		ms
	230VAC	≥ 65		ms

* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the application note for specific details.

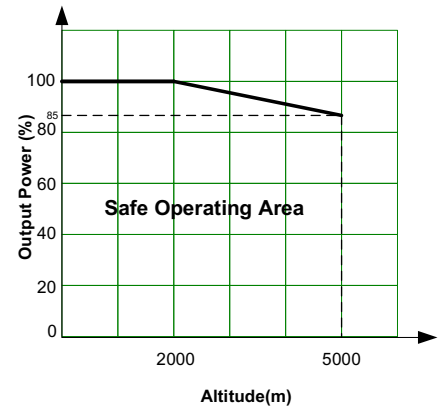
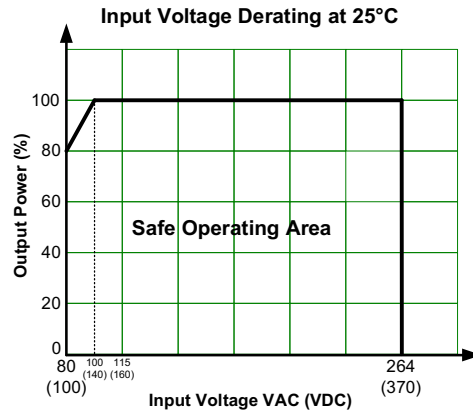
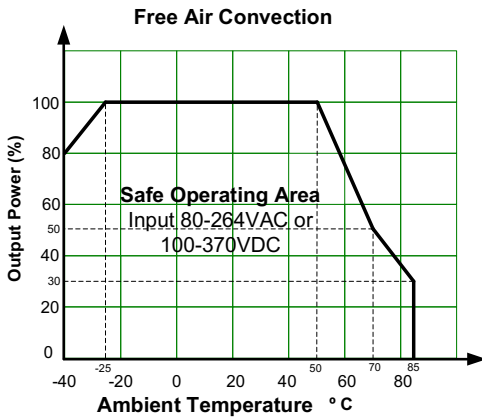
Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage ≤ 5 mA	≥ 4000		VAC
Tested I/O to case voltage	60 sec, leakage ≤ 5 mA, suffix -F models	≥ 2500		VAC
Resistance I/O	500VDC	≥ 100		M Ω

General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Protection class	Class II			
Over current protection	Auto recovery	≥ 120		% of I _{out}
Over voltage protection	3.3V _{out} , hiccup		5.25	VDC
	5V _{out} , hiccup		7	VDC
	12V _{out} , hiccup		16	VDC
	15V _{out} , hiccup		22	VDC
	24V _{out} , hiccup		32.4	VDC
	36V _{out} , hiccup		42.4	VDC
	48V _{out} , hiccup		57	VDC
Short circuit protection	Hiccup, Continuous, Auto recovery			
No-load power consumption		0.2	0.3	W
Operating temperature	See derating graph	-40 to +85		°C
Storage temperature		-40 to +85		°C
Operating altitude			5000	m
Power Derating	-40 °C to -25 °C	1.2		%/°C
	+50 °C to +70 °C	2.5		%/°C
	+70 °C to +85 °C	1.34		%/°C
	80VAC to 100VAC	1.0		%/VAC
	2000 - 5000m	5.0		%/1000m
Creepage		≥ 8		mm
Clearance		≥ 7.6		mm
Temperature coefficient		±0.02		%/°C
Cooling	Free air convection			
Humidity	Non-condensing, storage		90	% RH
Weight	Open frame	95		g
	Enclosed	150		g
Dimensions (L x W x H)	Open frame	3.00 x 2.00 x 1.04 inches (76.2 x 50.8 x 26.5 mm)		
	Enclosed	3.60 x 2.38 x 1.31 inches (91.4 x 60.5 x 33.3 mm)		
MTBF	> 300 000 hrs (MIL-HDBK -217F, t _a +25°C)			
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.				

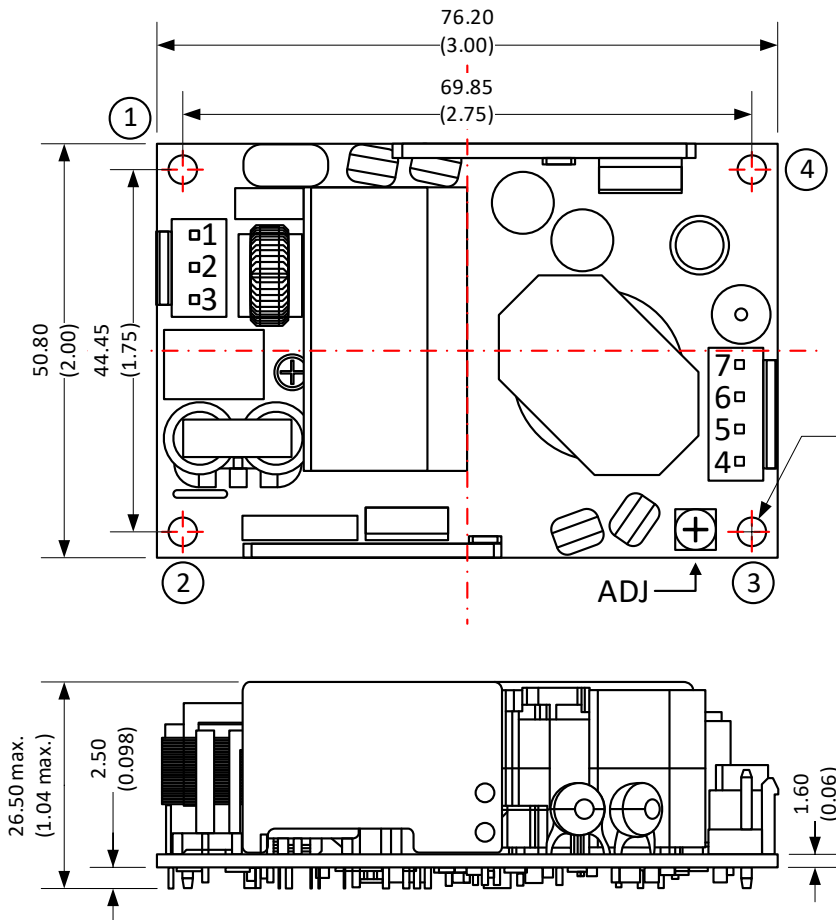
Safety Specifications		
Parameters		
Agency approvals	cULus: ANSI/AAMI ES60601-1 V3.1, CAN/CSA-C22.2 No.60601-1:14 Ed3 CE: EN62368-1	
Standards	Design to meet IEC/EN/UL62368-1, IEC/EN60335-1, IEC/EN61558-1, IEC/EN60601-1, EN60601-1-2 Ed4, GB4943.1	
	EMC - Conducted and radiated emission	CISPR32 / EN55032 / EN55011, class B
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±8KV, Air ±15KV, Criteria A
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 20V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±2KV, Criteria A
	Surge Immunity	IEC 61000-4-5 L-L ±2KV, Criteria A
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 20Vr.m.s, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 Criteria B

Derating

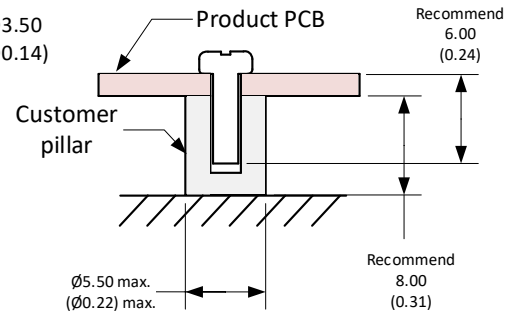


Dimensions

Open frame model

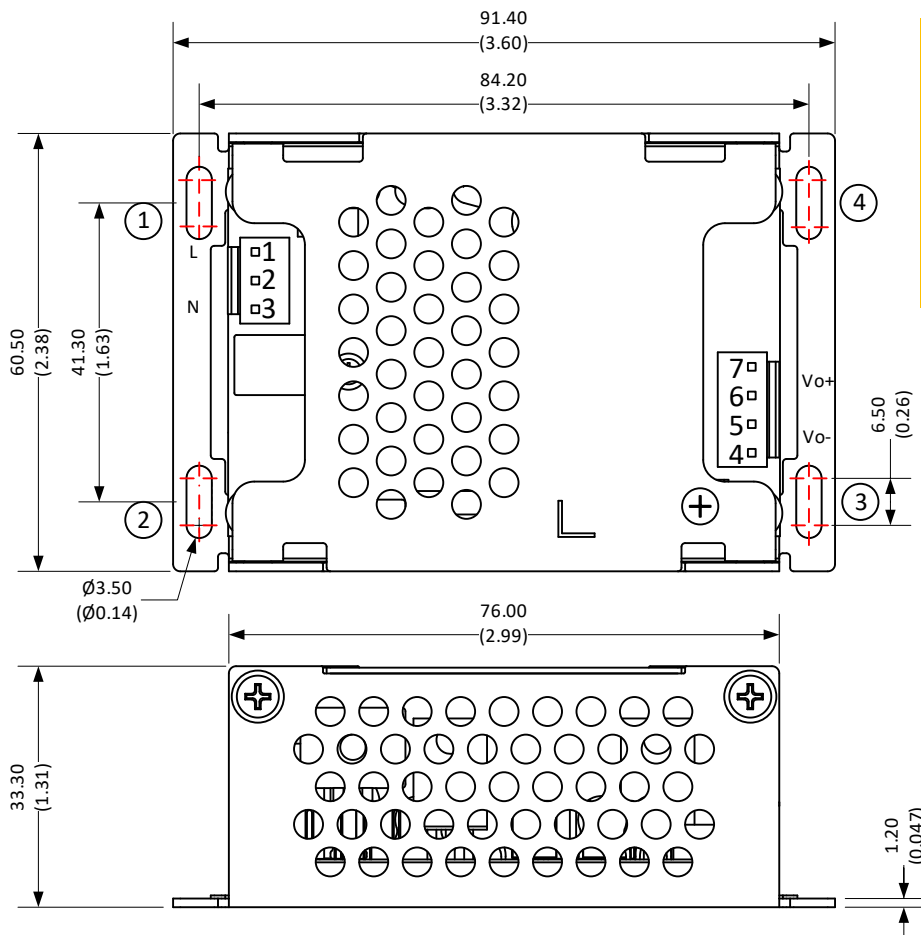


Pin Output Specifications		
Pin	Function	Recommended connector
1	AC Input (L)	JST VHR
2	No pin	JST SVH-21T-P1.1 or equivalent
3	AC Input (N)	JST VHR
4	-V Output	JST SVH-21T-P1.1 or equivalent
5	-V Output	JST SVH-21T-P1.1 or equivalent
6	+V Output	JST SVH-21T-P1.1 or equivalent
7	+V Output	JST SVH-21T-P1.1 or equivalent

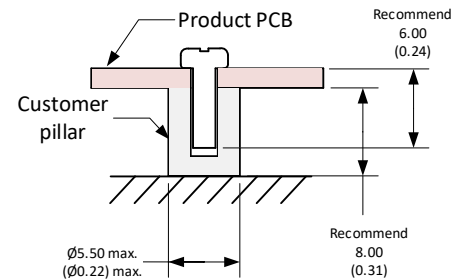


Note:
Unit: mm [inch]
General tolerance: ±0.5 (±0.02)
Mounting screw: M3
Mounting screw tightening torque: 0.4N max.

Enclosed model



Pin Output Specifications		
Pin	Function	Recommended connector
1	AC Input (L)	JST VHR JST SVH-21T-P1.1 or equivalent
2	No pin	
3	AC Input (N)	JST VHR JST SVH-21T-P1.1 or equivalent
4	-V Output	
5	-V Output	
6	+V Output	
7	+V Output	



Note:
Unit: mm [inch]
General tolerance: ± 0.5 (± 0.02)
Mounting screw: M3
Mounting screw tightening torque: 0.4N max.

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 than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.