

Series AME3-AZ

3Watt | AC-DC Converter



FEATURES:

- I/O Isolation 3000VAC
- Operating Temp: -40°C to +80°C
- Over load, Short Circuit Protection
- Input: 90-305VAC, 47-440Hz, or 130-430 VDC
- Optional 90-528VAC, 47-440Hz, or 130-745 VDC

- RoHS compliant
- Energy Star compliant
- Ultra small package



Models Single output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Temperature range (°C)	Output Voltage (V)	Output Current max (mA)	Maximum capacitive Load (μF)	Efficiency Full load (%)			
							115 VAC	230 VAC	277 VAC	480 VAC
AME3-3.3SAZ	90-305/47-440	130-430	-40 to +80	3.3	900	2200	63	64	62	
AME3-5SAZ	90-305/47-440	130-430	-40 to +80	5	600	1100	67	67	65	
AME3-12SAZ	90-305/47-440	130-430	-40 to +80	12	250	680	75	73	70	
AME3-15SAZ	90-305/47-440	130-430	-40 to +80	15	200	560	78	74	71	
AME3-24SAZ	90-305/47-440	130-430	-40 to +80	24	125	470	81	81	80	
AME3-3.3SBAZ	90-528/47-440	130-745	-40 to +80	3.3	700	2200	61	61	60	54
AME3-5SBAZ	90-528/47-440	130-745	-40 to +80	5	600	1100	67	67	66	60
AME3-12SBAZ	90-528/47-440	130-745	-40 to +80	12	250	680	72	72	70	61
AME3-15SBAZ	90-528/47-440	130-745	-40 to +80	15	200	560	72	71	70	61
AME3-24SBAZ	90-528/47-440	130-745	-40 to +80	24	125	470	71	71	69	62

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current (full load)	115 VAC		80	mA
	230 VAC		40	mA
	277 VAC		35	mA
	480VAC		30	mA
Inrush current <2ms (cold start)	115 VAC		10	A
	230 VAC		15	A
	277 VAC		20	A
	480 VAC		30	A
Leakage current			0.15	mA
External fuse	Recommended slow blow type	1		A
Input Dissipation (No Load)		≤0.3		W

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full load (typical)*	±5		%
Line regulation	LL-HL, Full Load	±3		%
Load regulation (single output)	0-100% load (typical)*	±5		%
Transient Recovery Time		200		μs
Transient Response Deviation	25% load step	±2		% of Vout
Minimum load		0		%
Ripple & Noise	3.3/5 VDC With 560μF E/C	200		mV p-p
	12/15 VDC With 220μF E/C	400		mV p-p
	24 VDC With 220μF E/C	500		mV p-p

*Ripple & Noise measured at 20MHz bandwidth with 0.1μF and 115/230/277/480VAC (Typical input) with Full Load

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		3000	VAC
Isolation Resistance		>1000		MΩ

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		100		KHz
Over Load protection	Auto recovery	>125%		
Short circuit protection	Auto recovery			
Operating temperature	AME3-xxSBAZ derating at 50°C AME3-xxSAZ derating at 55°C	-40 to +80		°C
Storage temperature		-40 to +85		°C
Maximum Case temperature			100	°C
Humidity	Non condensing	20-95		% RH
Case material	Plastic resin + Fiberglass (flammability to UL 94V-0)			
Weight		25		g
Dimensions (L x W x H)		1.40 x 0.92 x 0.76 (35.60 x 23.31 x 19.32mm)		
MTBF		> 400 000 hrs (MIL-HDBK -217F, t _a =+25°C)/Full Load > 100,000 hrs (MIL-HDBK -217F, t _a at highest operating temperature)/Full Load		

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.

Environment Approval

Parameters	Conditions
Shock	Wave form: Half sine wave
	Acceleration amplitude: 5gn
	Bump duration: 30 ms
	Number of bumps: 18 (3 in each direction for every axis)
	Converter operation before and after test, body mounted (on chassis)
Vibrations	Test mode: Sweep sine
	10-100Hz, speed 0.05Hz/s
	Displacement: 1mm
	Acceleration: 3g
	3 loops 30min one cycle, 3h total, every axis tested Converter operation before and after test, body mounted (on chassis)

Safety Specifications

Parameters	Conditions
Agency approvals	cULus, CE, CB, FCC
Standards	Information technology Equipment IEC/EN/UL 60950-1:2006+A11:2009
	EMI - Conducted and radiated emission EN55022, class B (* see note)
	Harmonic Current Emissions IEC/EN 61000-3-2, Class A
	Voltage fluctuations and flicker IEC/EN 61000-3-3, (EN60555-3)
	Electrostatic Discharge Immunity IEC 61000-4-2
	RF, Electromagnetic Field Immunity IEC 61000-4-3
	Electrical Fast Transient/Burst Immunity IEC 61000-4-4
	Surge Immunity (1KV) IEC 61000-4-5(SAZ:Level2,SBAZ:Level 1)
	RF, Conducted Disturbance Immunity IEC 61000-4-6
	Power frequency Magnetic Field Immunity IEC 61000-4-8
	Voltage dips, Short Interruptions Immunity IEC 61000-4-11
	FCC part 15 Subpart B, Class B, ANSI C63.4 :2003

* Note: for 528VAC models to meet the EN55022 class B spec an external 0.33uF X capacitor is needed to be installed between AC L and AC N as close as possible to the input of the power supply itself

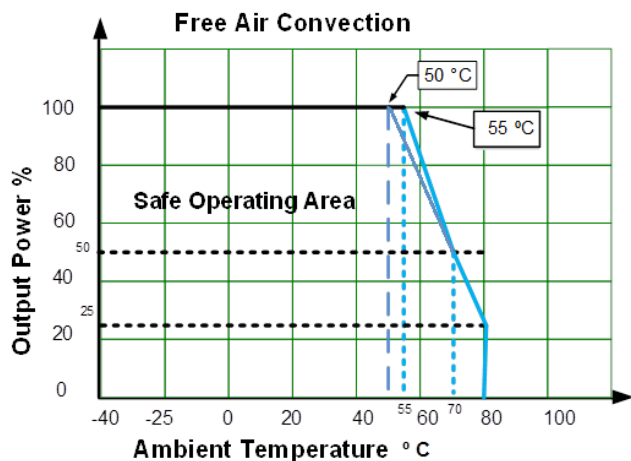
Pin Out Specifications*

Pin	Single
1*	AC Input (N) or (L1)
2*	AC Input (L) or (L2)
3	-V Output
4	+V Output

* Note: Input Pins 1 and 2 can be "N" and "L" respectively when the input voltage is supplied from a single phase.

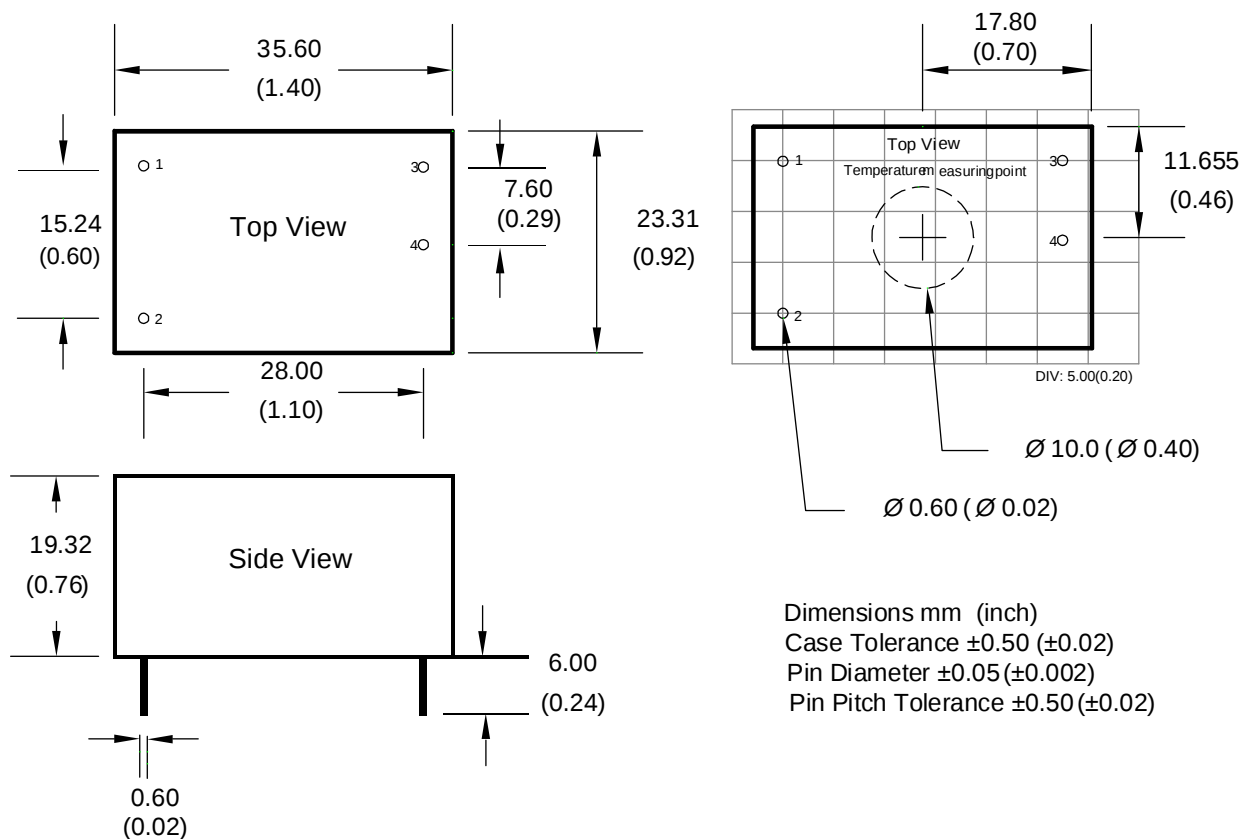
Input Pins 1 and 2 can be "L1" and "L2" respectively when the input voltage is supplied from 3 phase line to line voltage 208-480Vac (208 Y/ 120V 3-phase, 240 Y/ 120V 3-phase, 400 Y/ 230V 3-phase or 480 Y/ 277V 3-phase).

Derating



Derating at 50°C for AME3-xxSBAZ models
Derating at 55°C for AME3-xxSAZ models

Dimensions



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.