

Series AME15-MAZ

15 Watt | AC-DC / DC-DC Converter



FEATURES:

- 4000VAC I/O Isolation
- Operating temperature: -40 to +85°C
- Over load, Over Voltage, Short Circuit Protection
- Universal input: 90-264VAC, 47-440Hz
- RoHS compliant
- Soft start
- Energy Star compliant
- CE, cULus, CB approvals



Models Single output

Model	Input Voltage (VAC/Hz)	Input voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (µF)	Efficiency (%)	
						115 VAC	230 VAC
AME15-3.3SMAZ	90-264/47-440	130-370	3.3	3	4700	73	73
AME15-5SMAZ	90-264/47-440	130-370	5	3	2200	76	78
AME15-12SMAZ	90-264/47-440	130-370	12	1.25	1000	78	79
AME15-15SMAZ	90-264/47-440	130-370	15	1	680	79	82
AME15-24SMAZ	90-264/47-440	130-370	24	0.63	470	82	84

Models Dual output

Model	Input Voltage (VAC/Hz)	Input voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum Capacitive Load (µF)	Efficiency (%)	
						115 VAC	230 VAC
AME15-5DMAZ	90-264/47-440	130-370	±5	±1.5	±1000	78	79
AME15-12DMAZ	90-264/47-440	130-370	±12	±0.63	±470	81	82
AME15-15DMAZ	90-264/47-440	130-370	±15	±0.5	±330	82	83

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current	115 VAC		350	mA
	230 VAC		180	mA
Inrush current <2ms (Cold Start)	115 VAC		20	A
	230 VAC		30	A
Leakage current	115 VAC		0.1	mA
	264 VAC		0.2	mA
External Fuse (recommend)	slow blow type	2		A
Input Dissipation	110/230Vac	≤ 0.2		W
Under Voltage Protection		85		VAC
Start-up time		350		ms

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Line regulation	LL-HL	±1		%
Load regulation (single)	0-100%	±1		%
Cross regulation (dual)	25% load - 1 st out, 100% load – 2 nd out	±5		%
Transient Recovery Time		300		µs
Transient Response Deviation	25% load step	±2		% of Vout
Ripple & Noise*	3.3 / 5V Models	75		mVp-p
	12 / 15V Models	100		
	24V	150		
Hold-up time	min	20		ms

* Ripple and Noise are measured at 20MHz bandwidth by using a 0.1µF (M/C) and 47µF (E/C) parallel capacitor

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		4000	VAC
Isolation resistance		>1000		MΩ

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		132		KHz
Protection class		Class II		
Over load protection	Fold Back	130		%
Over voltage protection		Zener diode clamp		
Short Circuit protection		Continuous		
Short Circuit restart		Auto recovery		
Operating temperature	With derating over 55 °C	-40 to +85		°C
Storage temperature		-40 to +100		°C
Max Case temperature			100	°C
Temperature coefficient		±0.02		% / °C
Cooling	Free air convection			
Humidity			95	% RH
Weight		100		g
Dimensions (L x W x H)	2.56 x 1.83 x 0.79 inches 65.0 x 46.5 x 20.1 mm , ±0.5mm			
MTBF	> 400,000hrs (MIL-HDBK -217F, t=+25°C) > 100,000hrs (MIL-HDBK -217F, t=at highest operating temperature)			
Case material	Plastic (flammability to UL 94V-0)			

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)

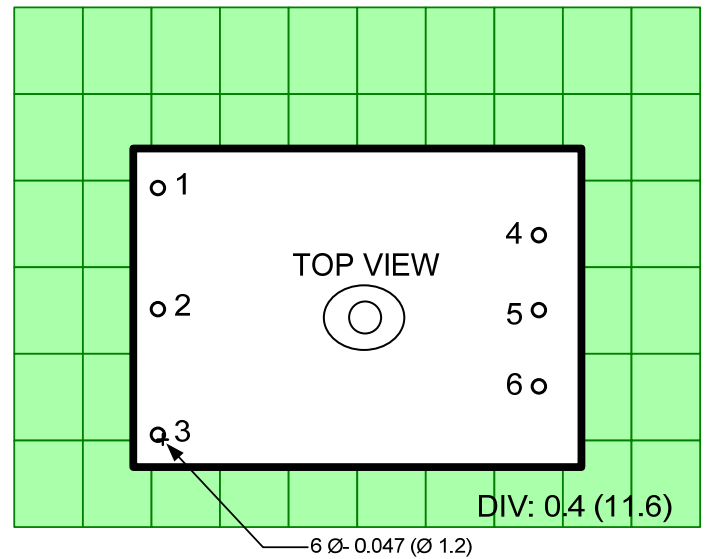
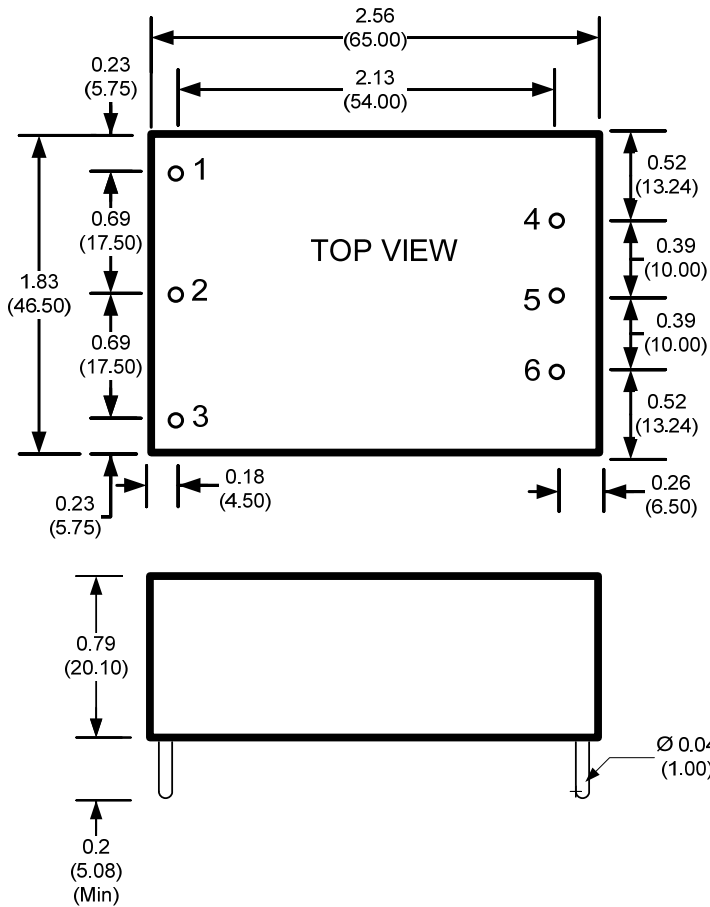
Safety & EMC Specifications

Parameters	Conditions	
Agency approvals	cULus, CE, CB	
Standards	Medical Electrical Equipment	IEC\EN\UL 60601-1, 2 x MOOP, CSA-C22.2 No. 601.1-M90
	Information technology Equipment	EN 60950-1:2006+A11:2009
	EMI - Conducted and radiated emission	EN55011, class B
	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 Level 3
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 Level 2
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 Level 3
	Surge Immunity	IEC 61000-4-5 Level 3
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 Level 2
	Power frequency Magnetic Field Immunity	IEC 61000-4-8 Level 2
Voltage dips, Short Interruptions Immunity	IEC 61000-4-11	


Pin Out Specifications

Pin	Single	Dual
1	No pin	No pin
2	AC Input (N)	AC Input (N)
3	AC Input (L)	AC Input (L)
4	-V Output	-V Output
5	No pin	Common
6	+V Output	+V Output

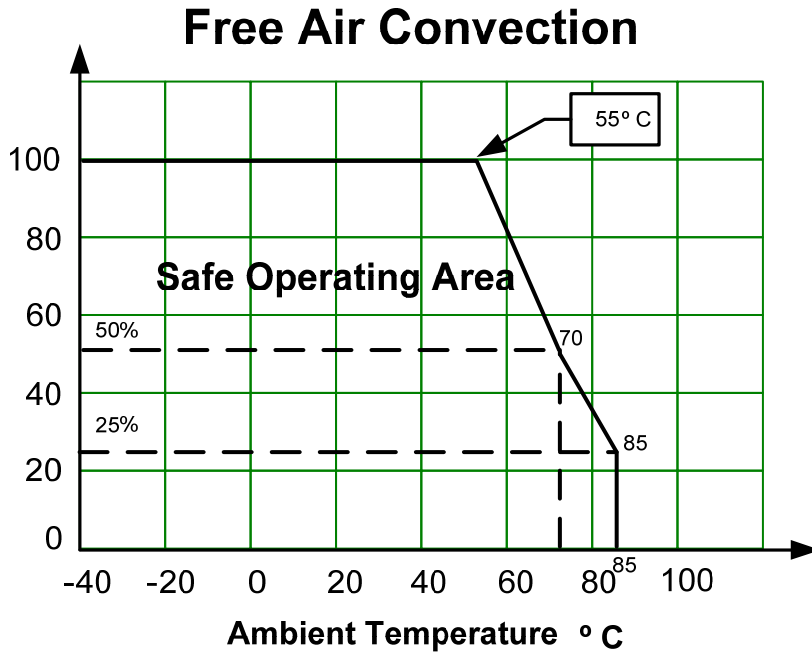
Dimensions (Top View)



Dimensions: inch (mm)
Case Tolerance: ± 0.02 (0.50)
Pin Pitch Tolerance: ± 0.02 (0.50)

 - Case temperature Measurement

Derating



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.