Series AMES15-MAZ

15 Watt | AC-DC / DC-DC Converter



FEATURES:

- Screw Terminals on Input & Output
- Operating temperature: -40 to +80°C
- Over load, Over Voltage, Short Circuit Protection
- Optional DIN Rail mounting bracket
- Universal input: 90-264VAC, 47-440Hz
- RoHS compliant
- Soft start
- Energy Star compliant
- CE, cULus, CB approvals
- 4000VAC I/O Isolation

Models
Single output

Model	Input Voltage (VAC/Hz)	Input voltage (VDC)	Max Output wattage (W)	Output Voltage (V)	Output Current max (A)	Maximum Capacitive Load (µF)	Efficiency (%)	
							115 VAC	230 VAC
AMES15-3.3SMAZ	90-264/47-440	130-370	9.9	3.3	3	4700	74	74
AMES15-5SMAZ	90-264/47-440	130-370	15	5	3	2200	75	76
AMES15-12SMAZ	90-264/47-440	130-370	15	12	1.25	1000	81	82
AMES15-15SMAZ	90-264/47-440	130-370	15	15	1	680	81	83
AMES15-24SMAZ	90-264/47-440	130-370	15	24	0.63	470	83	83

Models
Dual output

Model	Input Voltage (VAC/Hz)	Input voltage (VDC)	Max Output wattage (W)	Output Voltage (V)	Output Current max (A)	Maximum Capacitive Load (µF)	Efficiency (%)	
							115 VAC	230 VAC
AMES15-5DMAZ	90-264/47-440	130-370	15	±5	±1.5	±1000	78	79
AMES15-12DMAZ	90-264/47-440	130-370	15	±12	±0.63	±470	81	82
AMES15-15DMAZ	90-264/47-440	130-370	15	±15	±0.5	±330	82	83

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current (full load)	115VAC		350	mA
	230VAC		180	mA
Inrush current <2ms (cold start)	115 VAC		10	A
	230 VAC		20	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

Output Specifications

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

* Ripple and Noise are measured at 20MHz bandwidth by using 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		
Start up time		350		mS
Over load protection	Foldback	>130		%
Over voltage protection		Zener diode clamp		
Short circuit protection		Auto recovery		
Case material		Metal		
Operating temperature	With derating over 55 ºC (10CFM)	-40 to +80		ºC
Storage temperature		-50 to +100		ºC
Max Case temperature			100	ºC
Temperature coefficient		±0.02		% / ºC
Cooling		Free air convection		
Humidity			95	% RH
Weight		100		g
Dimensions (L x W x H)		3.62 x 2.56 x 0.94 inches 92.0 x 65.0 x 24.0 mm		
MTBF		> 400,000hrs (MIL-HDBK -217F, t=+25ºC) > 100,000hrs (MIL-HDBK -217F, t=at highest operating temperature)		

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.

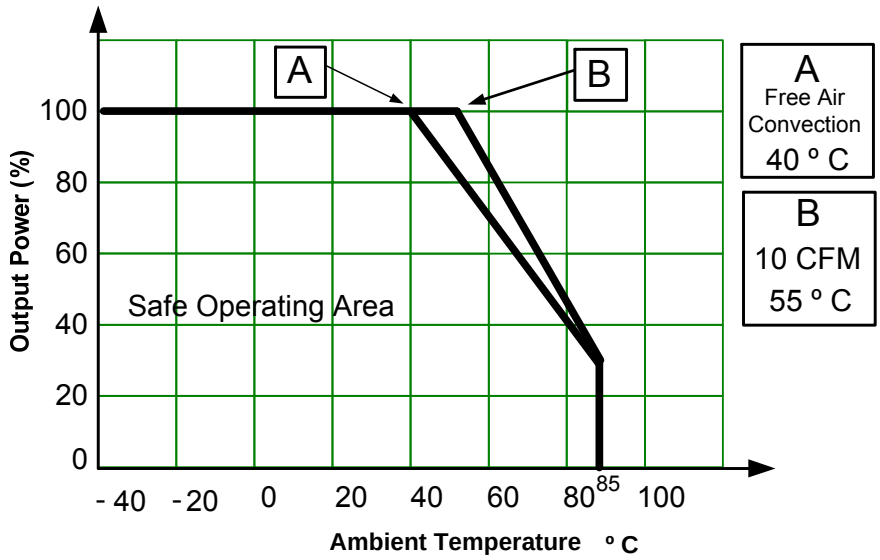
Environment Approval

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		
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

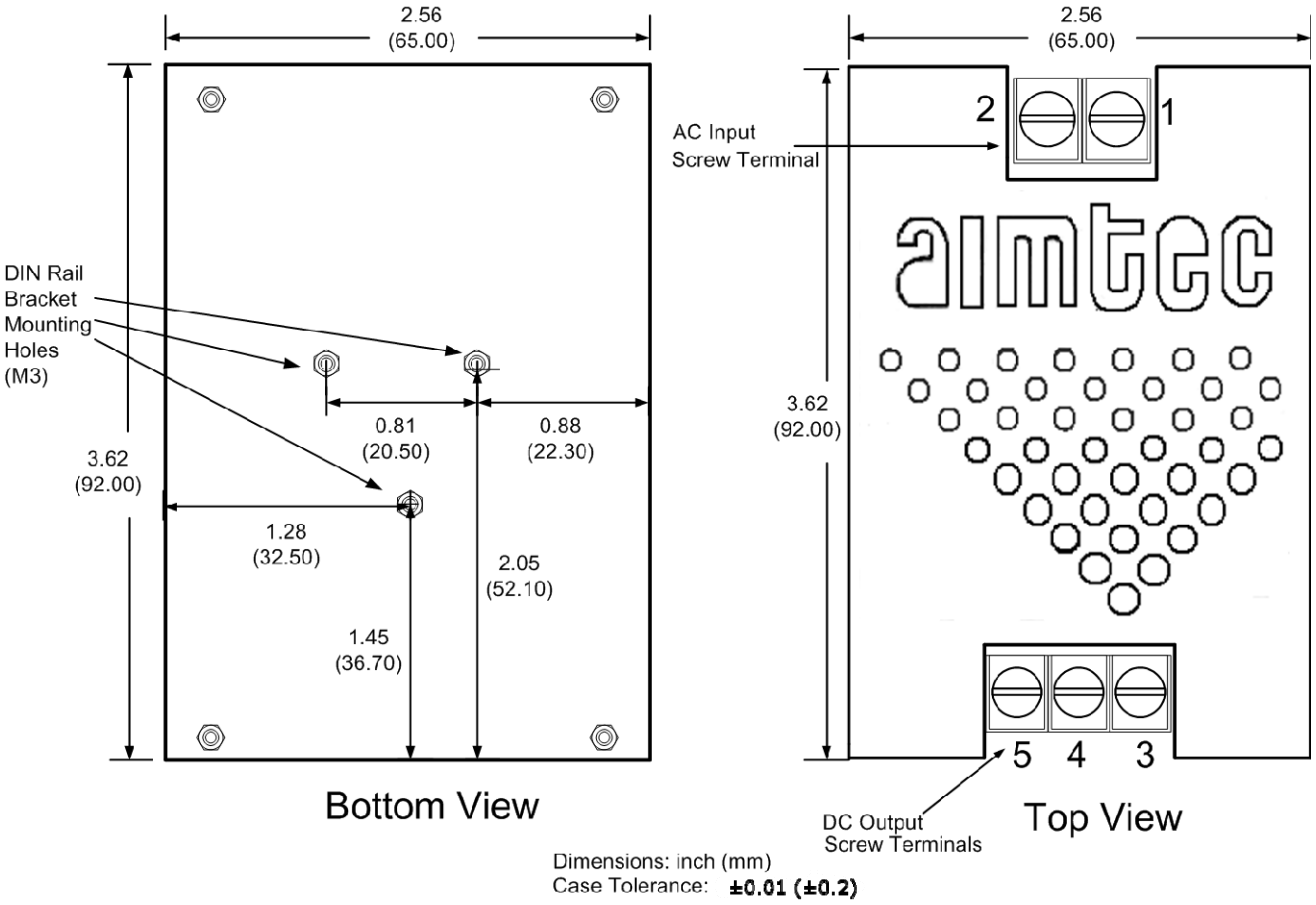
Derating

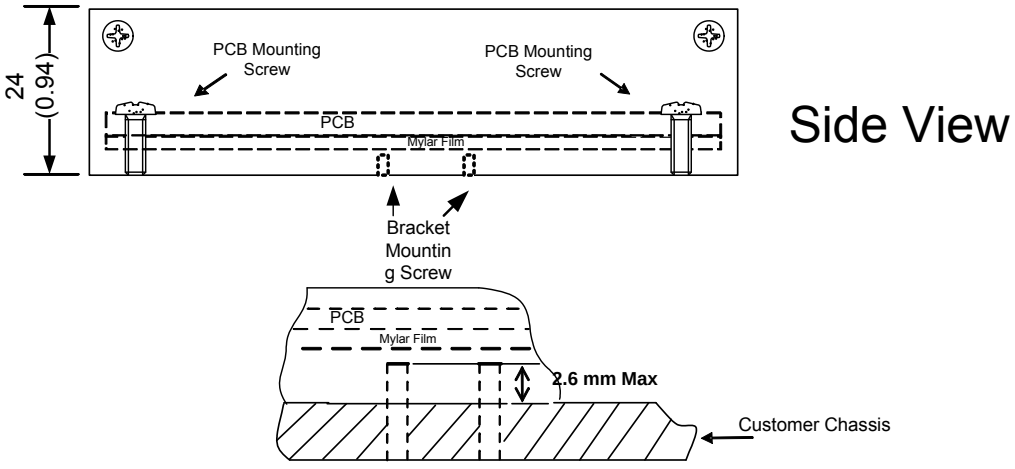


Pin Out Specifications

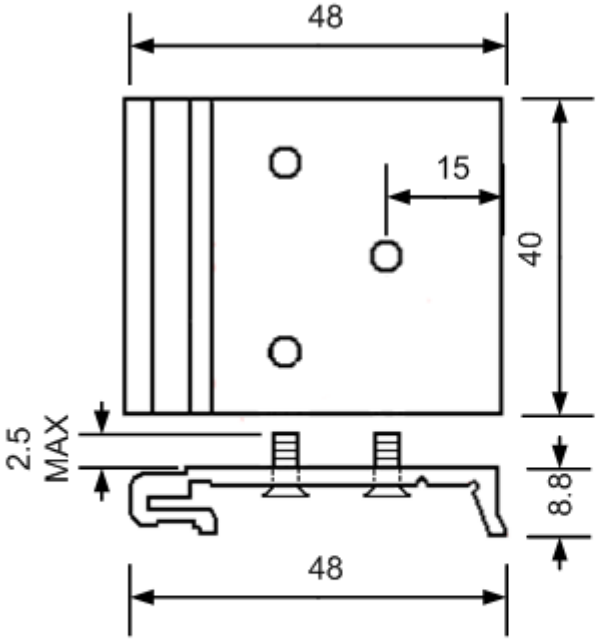
Pin	Single	Dual
1	AC Input (N)	AC Input (N)
2	AC Input (L)	AC Input (L)
3	-V Output	-V Output
4	No Connection	Common
5	+V Output	+V Output

Dimensions


2.56
(65.00)
DIN Rail
Bracket
Mounting
Holes
(M3)
3.62
(92.00)
0.81
(20.50)
0.88
(22.30)
1.28
(32.50)
2.05
(52.10)
1.45
(36.70)
Bottom View
2.56
(65.00)
AC Input
Screw Terminal
2
1
3.62
(92.00)
5 4 3
DC Output
Screw Terminals
Top View
Dimensions: inch (mm)
Case Tolerance: ±0.01 (±0.2)


24
(0.94)
PCB Mounting
Screw
PCB Mounting
Screw
PCB
Mylar Film
Bracket
Mountin
g Screw
PCB
Mylar Film
2.6 mm Max
Customer Chassis
Side View

Optional DIN Rail Bracket



To order optional DIN rail bracket kit specify part number DRB01 when placing order



Aimtec DRB01 bracket is compatible with standard 35mm DIN rails (TS35/7.5)

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