Series AMES40-MAZ

40 Watt | AC-DC / DC-DC Converter

FEATURES:

- Screw terminals on the input/output
- Operating temperature: -40°C to +85°C
- Over load, Over voltage, Short circuit protection
- Universal Input: 90-264VAC, 47-440Hz, or 130-370VDC
- Energy star compliant
- 4000VAC I/O isolation
- Low ripple and noise
- CE, cULus, CB approvals

Models
Single output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Efficiency (%)
AMES40-3.3SMAZ	90-264/47-440	130-370	3.3	8	78
AMES40-5SMAZ	90-264/47-440	130-370	5	8	82
AMES40-12SMAZ	90-264/47-440	130-370	12	3.33	84
AMES40-15SMAZ	90-264/47-440	130-370	15	2.66	83
AMES40-24SMAZ	90-264/47-440	130-370	24	1.66	82

Models
Dual output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Efficiency (%)
AMES40-5DMAZ	90-264/47-440	130-370	±5	±4	80
AMES40-12DMAZ	90-264/47-440	130-370	±12	±1.66	85
AMES40-15DMAZ	90-264/47-440	130-370	±15	±1.33	82
AMES40-24DMAZ	90-264/47-440	130-370	±24	±0.835	77

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.

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current	115 VAC		1000	mA
	230 VAC		530	
Inrush current <2ms	115 VAC		25	A
	230 VAC		50	
Leakage current			150	µA
External fuse	Recommended slow blow type	3.15		A
Input dissipation	No load	≤0.5		W
Start-up time		117		ms

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Line regulation	(LL-HL)	±0.5		%
Load regulation	0-100% load single	±1		%
	0-100% load dual	±2		
Cross regulation	25% load - 1st out, 100% load – 2nd out	±5		%
Maximum Capacitive load	Depending of the model	470-23 000		µF
Transient response deviation	25% load Step	±2		% of Vout
Ripple & Noise*	20MHz bandwidth	50		mV p-p
Hold-up time (min)	115VAC	29		ms
Minimum Load Current		0		% of Max

*Ripple & Noise measured with 0.1µF M/C and 1µF E/C

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		47		KHz
Protection class		Class II		
Over current protection	Auto recovery	110	140	%
Over voltage protection		Zener diode clamp	110	%
Short circuit protection		Hiccup mode, indefinite		
Short Circuit restart		Auto recovery		
Operating temperature	With derating above 50ºC	-40 - +85		ºC
Maximum case temperature			100	ºC
Storage temperature		-40 to +95		ºC
Temperature coefficient		0.02		% / ºC
Cooling		Free air convection		
Humidity	Non condensing		95	% RH
Case material		Metal		
Weight		270		g
Dimensions (L X H X W)		4.92 x 2.56 x 1.38 inches 125.00 x 65.00 x 35.00mm,		
MTBF		> 800,000 hrs (MIL-HDBK -217F, t=+25 ºC)/Full Load > 200,000 hrs (MIL-HDBK -217F, t=at highest operating temperature)/Full Load		

Environment Approval

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

Safety Specifications

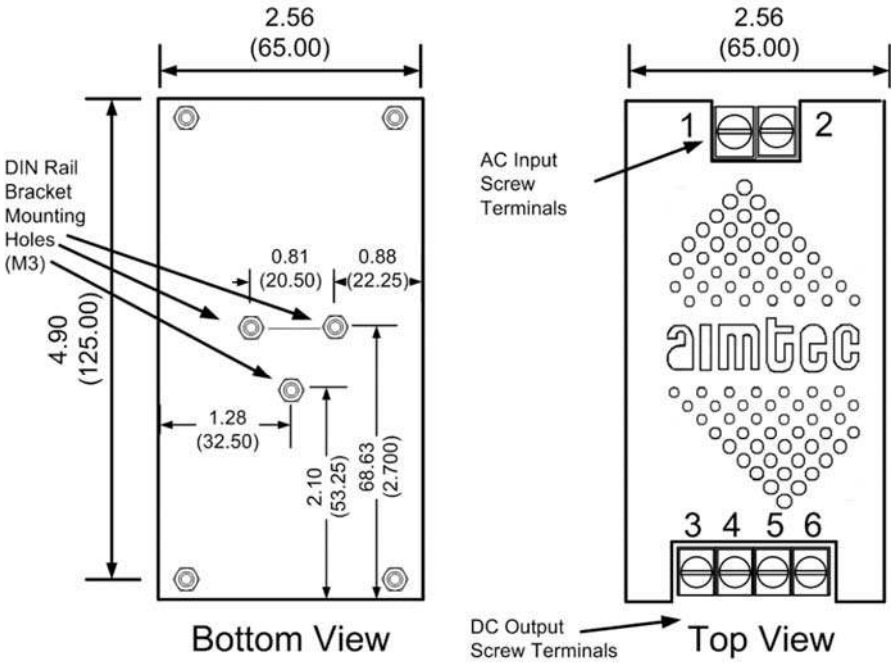
Parameters		
Agency approvals	cULus, CE, CB	
Standards	Medical Electrical Equipment	IEC\EN\UL 60601-1, 2 x MOOP, CSA-C22.2 No. 601.1-M90
	Information technology Equipment	EN 60950-1:2006+A11:2009
	EMI - Conducted and radiated emission	EN55011, class B
	Harmonic Current Emissions	IEC/EN 61000-3-2, Class 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 2
	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	AC Input (L)	AC Input (L)
2	AC Input (N)	AC Input (N)
3	+V Output	+V Output
4	-V Output	Common
5	N.C.	Common
6	N.C.	-V Output

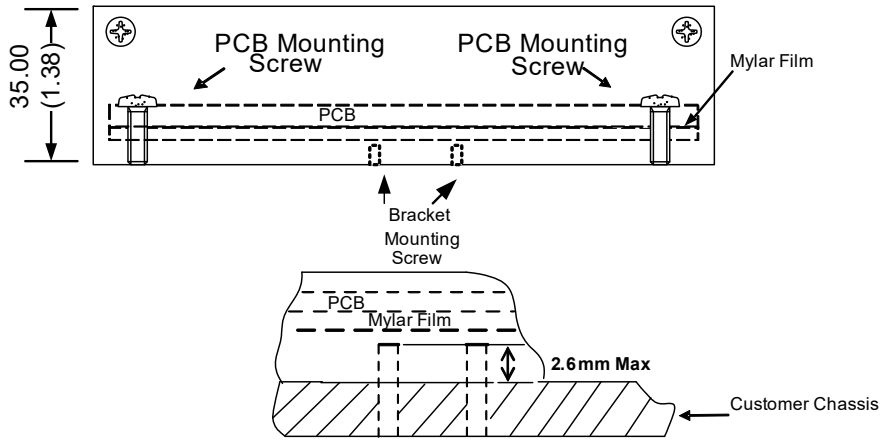
N.C.: Not Connected

Dimensions

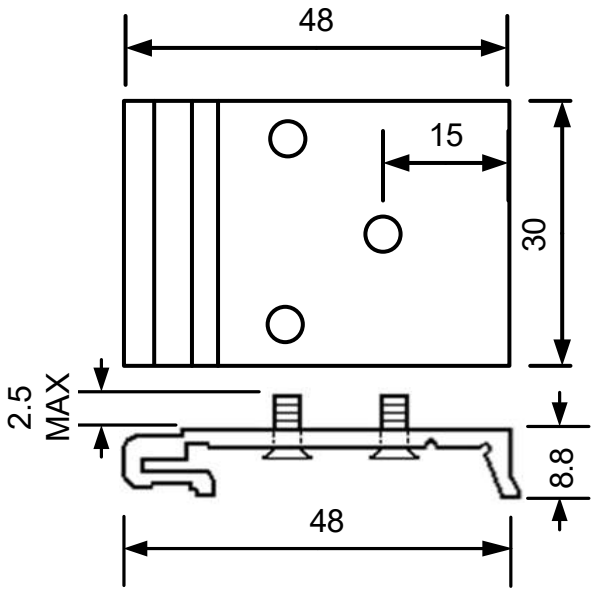


Dimensions: inch (mm)
Case Tolerance: ±0.05 (±1.30)

Side View



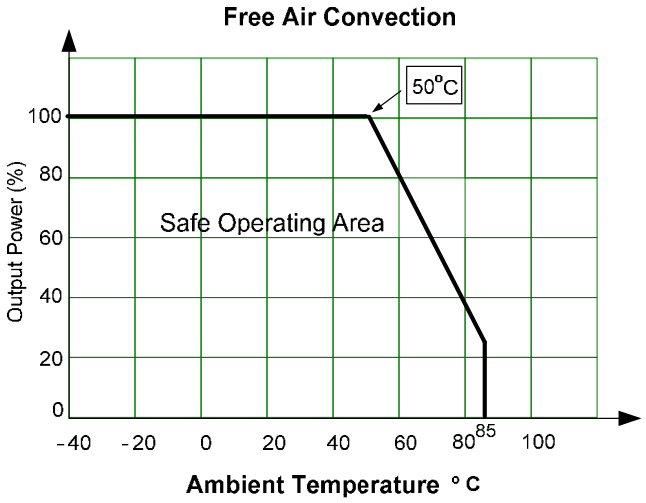
Optional DIN Rail Bracket



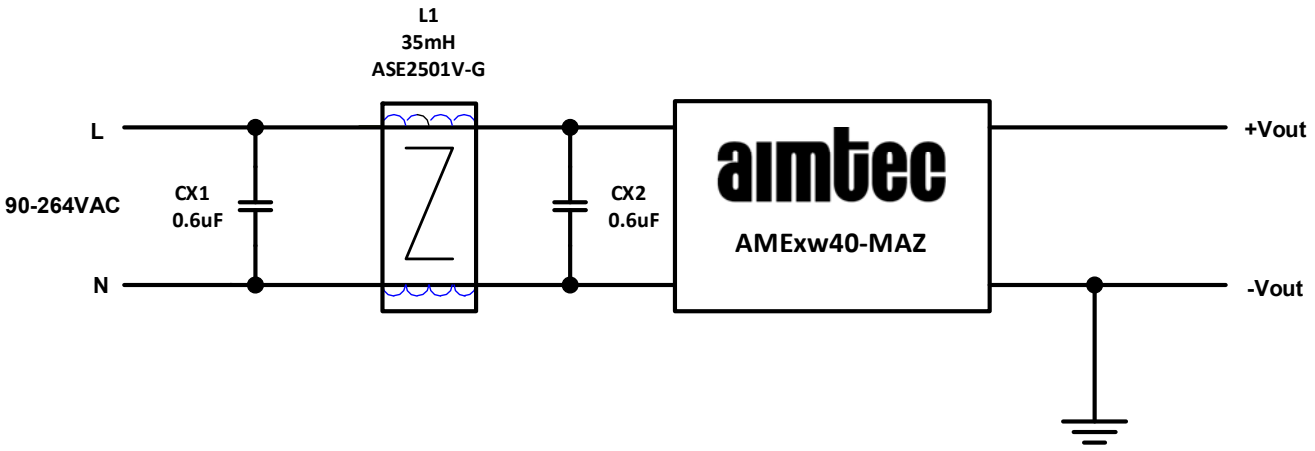
To order optional DIN rail bracket kit specify part number DRB01 when placing order

Optional DIN Rail Bracket compatible with DIN Rail TS35/7.5

Derating



Earth/Ground Connection EMC EN55022 class B compliant Application circuit



The Application circuit is EMC compliant for any type of Earth/Ground connection: Input Ground connection, Output Ground connection as shown or both sides, which is not recommended if the product Isolation is used as a Safety feature.