

Series AMEC40-MAZ 40 Watt | AC-DC / DC-DC Converter



FEATURES:

- Connectors on 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 noiseCE, cULus, CB approvals





Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Efficiency (%)
AMEC40-3.3SMAZ	90-264/47-440	130-370	3.3	8	78
AMEC40-5SMAZ	90-264/47-440	130-370	5	8	82
AMEC40-12SMAZ	90-264/47-440	130-370	12	3.33	84
AMEC40-15SMAZ	90-264/47-440	130-370	15	2.66	83
AMEC40-24SMAZ	90-264/47-440	130-370	24	1.66	82

Models **Dual output**

Single output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Efficiency (%)
AMEC40-5DMAZ	90-264/47-440	130-370	±5	±4	80
AMEC40-12DMAZ	90-264/47-440	130-370	±12	±1.66	85
AMEC40-15DMAZ	90-264/47-440	130-370	±15	±1.33	82
AMEC40-24DMAZ	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	m A	
Current	230 VAC		530	mA	
	115 VAC	115 VAC 25		۸	
Inrush current <2ms	230 VAC		50	Α	
Leakage current			150	μA	
External fuse	Recommended slow blow type	3.15		Α	
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		%	
Lood regulation	0-100% load single	±1		0/	
Load regulation	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



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Isolation Specifications

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

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 50°C	-40 - +85		°C
Maximum case temperature			100	°C
Storage temperature		-40 to +100		°C
Temperature coefficient		0.02		% /°C
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 35.00 mm			
MTBF	> 800,000 hrs (MIL-HDBK -217F, t=+25 °C)/Full Load > 200,000 hrs (MIL-HDBK -217F, t=at highest operating temperature)/Full Load			

Environment Approval

TVII OTITICITE Approval			
Test	Parameters	Conditions	
	Wave form	Half sine wave	
	Acceleration amplitude	5gn	
Shock	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)	
	Test mode	Sweep sine, 10-100Hz, speed 0.05Hz/s	
Vibration	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

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Parameters				
Agency approvals	cULus, CE, CB			
	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)		
Standards	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		

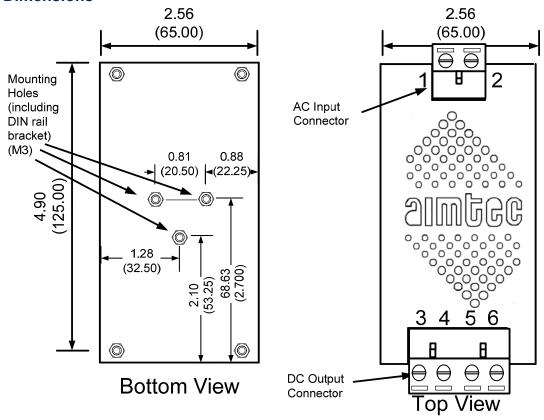


Pin Out Specifications

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

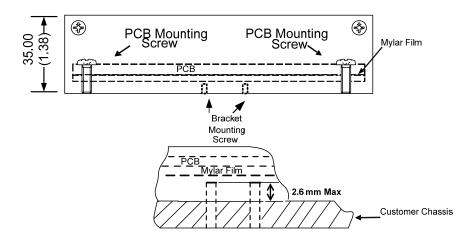
N.C.: Not Connected

Dimensions



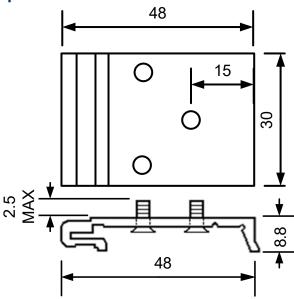
Dimensions: inch (mm)
Case Tolerance: ±0.05 (±1.30)

Side View

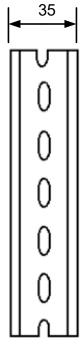




Optional DIN Rail Bracket

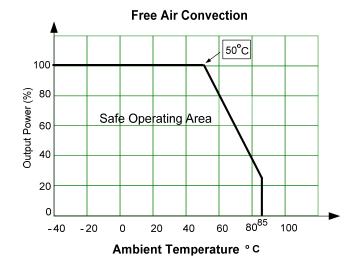


To order optional DIN rail bracket kit specify part number DRB01 when placing order



Optional DIN Rail Bracket compatible with DIN Rail TS35/7.5

Derating

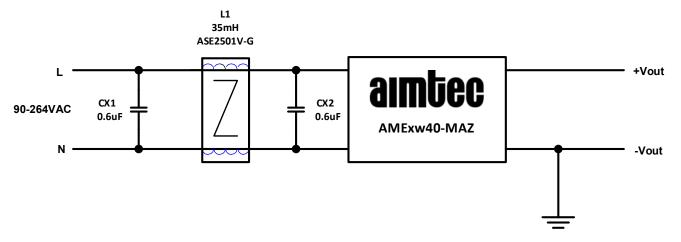


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Earth/Ground Connection EMC EN55022 class B compliant Application circuit



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.

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