

# Series AMEC30-MAZ 30 Watt | AC-DC / DC-DC Converter



#### **FEATURES:**

- 4000VAC I/O isolation
- Medical Switching power modules for PCB mounting
- Operating temperature: -40 to +85°C
- Universal Input: 90-260VAC, 47-440Hz, or 130-370VDC
- Energy star compliant
- RoHS compliant
- Low Ripple and Noise
- CE, cULus approvals







Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Efficiency (%)
AMEC30-3.3SMAZ	90-264/47-440	130-370	3.3	6	80
AMEC30-5SMAZ	90-264/47-440	130-370	5	6	83
AMEC30-12SMAZ	90-264/47-440	130-370	12	2.5	85
AMEC30-15SMAZ	90-264/47-440	130-370	15	2	85
AMEC30-24SMAZ	90-264/47-440	130-370	24	1.25	84

### Models Dual output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Efficiency (%)
AMEC30-5DMAZ	90-264/47-440	130-370	±5	±3	81
AMEC30-12DMAZ	90-264/47-440	130-370	±12	±1.25	84
AMEC30-15DMAZ	90-264/47-440	130-370	±15	±1	83
AMEC30-24DMAZ	90-264/47-440	130-370	±24	±0.625	82

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	meters Conditions		Maximum	Units	
Current	115 VAC		740	m A	
Current	230 VAC		410	mA	
l	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		%
Load regulation	0-100% load single	±1		%
Load regulation	0-100% load dual	±2		70
Cross regulation	25% load - 1 <sup>st</sup> out, 100% load – 2 <sup>nd</sup> 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

<sup>\*</sup>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 55°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 inch / 125.00 x 65.00 x 35.00 mm			
МТВБ	> 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
	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
VIDIALION	Acceleration	3g, 3 loops 30min one cycle, 3h total, every axis tested
	Converter operation	Before and after test, body mounted (on chassis)

**Safety Specifications** 

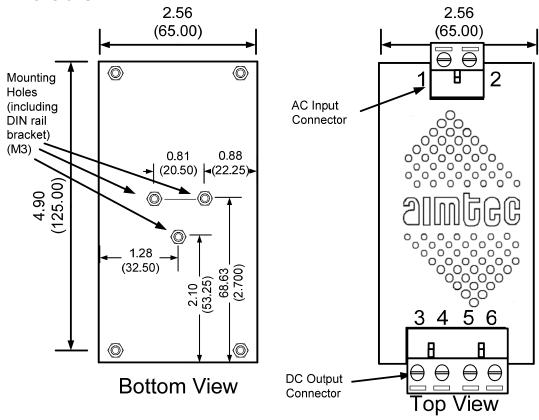
Parameters			
Agency approvals	cULus, CE, CB		
	Medical Electrical Equipment	IEC\EN\UL 60601-1, 2 x MOOP, CSA-C22.2 No. 601.1- M90	
	Information technology Equipment	EN 60950-1:2006+A11:2009	
	EMI - Conducted and radiated emission	EN55011, class B	
	Harmonic Current Emissions	IEC/EN 61000-3-2, Class 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** 

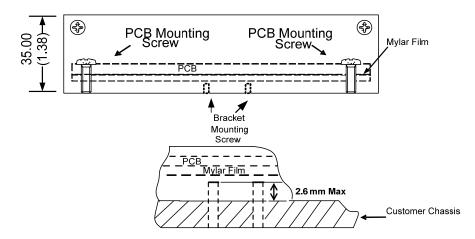
Pin	Single	Dual
1	AC Input (L)	AC Input (L)
2	AC Input (N)	AC Input (N)
3	+V Output	+V Output
4	-V Output	Common
5	N.C.	Common
6	N.C.	-V Output

#### **Dimensions**



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

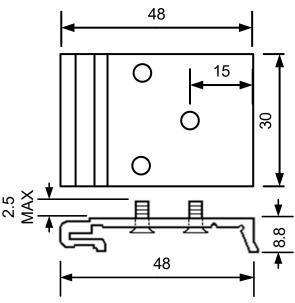
## Side View



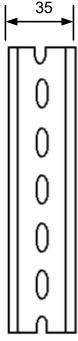


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## **Optional DIN Rail Bracket**

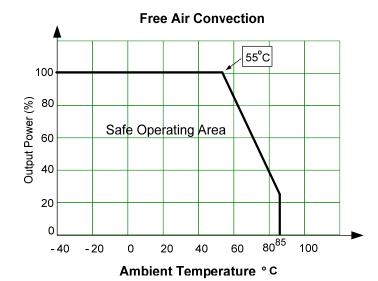


To order optional DIN rail bracket kit specify part number DRB01 when placing order



Optional DIN Rail Bracket compatible with DIN Rail TS35/7.5

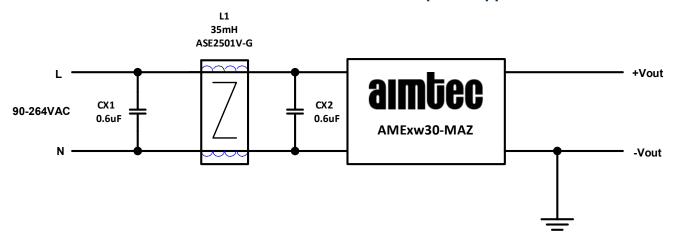
## **Derating**



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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.