

Series AMEL10-MJZ

10 Watt | AC-DC / DC-DC Converter



FEATURES:

- I/O Isolation 4000VAC
- Operating Temp: -25°C to +70°C
- Over current, Over Voltage
- Input: 85-264VAC, 47-440Hz, or 100-370VDC
- Low no load consumption $\leq 0.5W$
- Continuous Short Circuit Protection
- Up to 83% efficiency



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 (%)
AMEL10-3.3SMJZ	85-264/47-440	100-370	6.6	3.3	2.00	15,000	71
AMEL10-5SMJZ	85-264/47-440	100-370	10	5	2.00	12,000	76
AMEL10-9SMJZ	85-264/47-440	100-370	10	9	1.10	6,000	80
AMEL10-12SMJZ	85-264/47-440	100-370	10	12	0.90	2,000	81
AMEL10-15SMJZ	85-264/47-440	100-370	10	15	0.70	1,500	82
AMEL10-24SMJZ	85-264/47-440	100-370	10	24	0.45	500	83

*Output power must not exceed the listed values.

Note: Add suffix "-ST" for optional screw terminal bottom plate or "-STD" for optional DIN Rail screw terminal bottom plate.

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	115VAC	0.23		A
	230VAC	0.15		A
Inrush current <2ms (cold start)	115VAC		10	A
	230VAC		20	A
Leakage current			0.25	mA
External fuse	slow blow type	2		A
Input dissipation	No Load		≤ 0.5	W

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	3.3V output	± 3		%
	Others	± 2		
Line regulation	Full load	± 0.5		%
Load regulation	10-100% load	± 1		%
Ripple & Noise	20MHz bandwidth	50	100	mV p-p
Hold up time	230VAC	80		ms

Isolation Specifications

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

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	65		KHz
Protection class		Class II		
Over current protection	Auto recovery	110 - 200		% of Iout
Over voltage protection		Zener Diode Clamp		
Short circuit protection		Continuous		
Short circuit restart		Auto recovery		
Operating temperature	See derating table	-25 to +70		°C

General Specifications (continued)

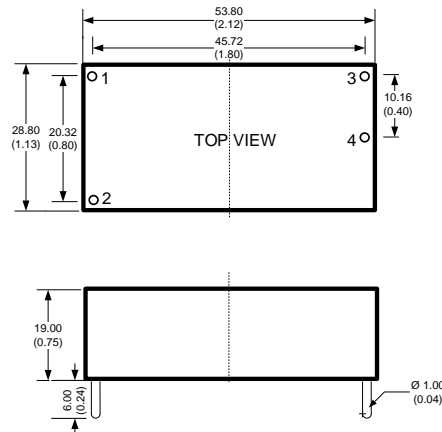
Parameters	Conditions	Typical	Maximum	Units
Maximum case temperature			100	°C
Storage temperature		-25 to +105		°C
Temperature coefficient		±0.02		% / °C
Cooling	Free air convection			
Humidity	Non condensing		95	% RH
Case material	Heat resistant black Plastic (flammability to UL 94V-0)			
Weight	PCB mountable models		50	g
	With optional -ST mounting plate:		70	
	With optional -STD mounting plate:		90	
Dimensions (L x W x H)	PCB mountable models	2.11 x 1.13 x 0.748 inches (53.80 x 28.80 x 19.00mm)		
	With optional -ST mounting plate:	2.99 x 1.24 x 1.094 inches (76.00 x 31.50 x 27.80 mm)		
	With optional -STD mounting plate:	2.99 x 1.24 x 1.276 inches (76.00 x 31.50 x 32.40 mm)		
MTBF	> 300 000 hrs (MIL-HDBK -217F, t=+25°C)/Full Load			

Safety Specifications

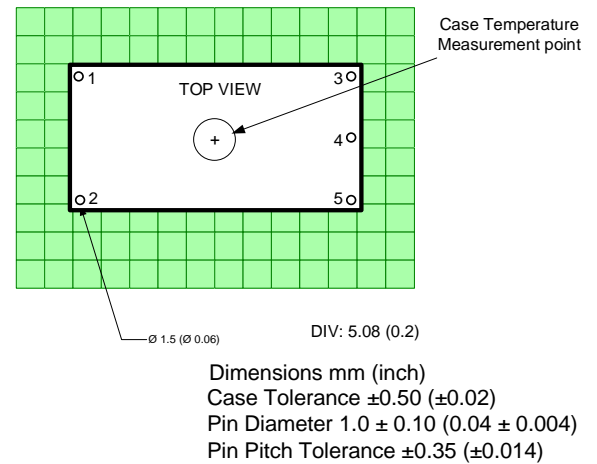
Parameters		
Agency approvals	cULus, CE	
Standards	Medical Electrical Equipment	Meets IEC/EN/UL 60601-1, 2 x MOPP
	Information technology Equipment	IEC/EN/UL 60950-1
	EMI - Conducted and radiated emission	EN55011, class A
	Electrostatic Discharge Immunity	IEC 61000-4-2 Level 3
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 Level 3
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 Level 3
	Surge Immunity	IEC 61000-4-5 Level 2, with application circuit
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 Level 3
	Power frequency Magnetic Field Immunity	IEC 61000-4-8 Level 3
Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 Class 2	

Pin Out Specifications

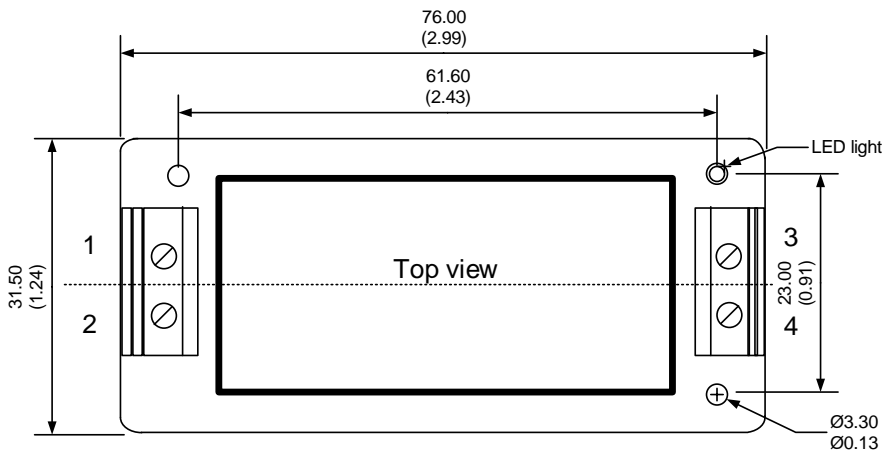
Pin	Single
1	AC Input (N)
2	AC Input (L)
3	+V Output
4	-V Output



Dimensions

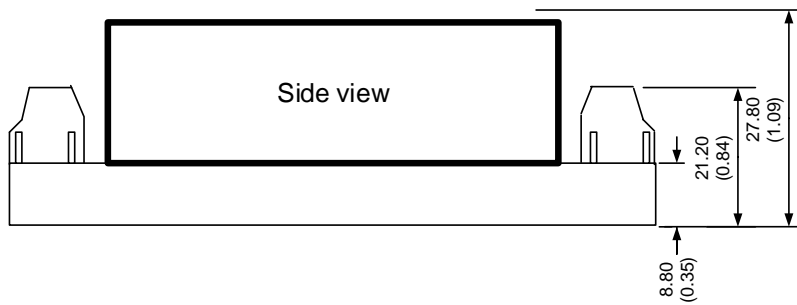


With optional -ST bottom plate



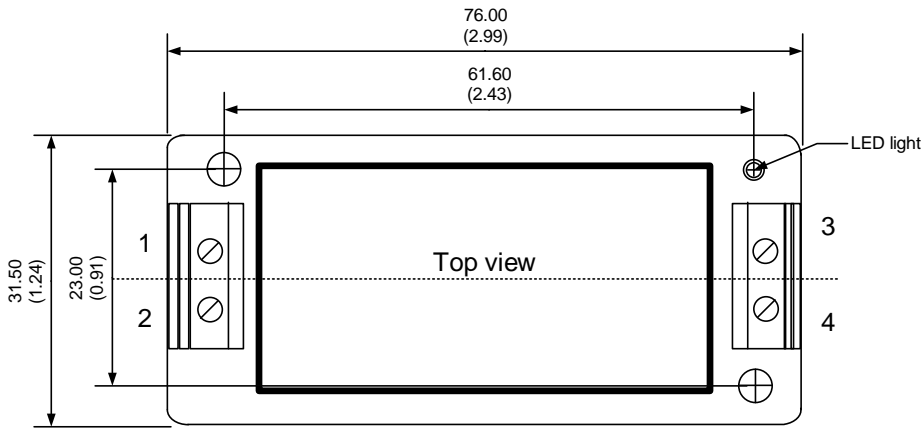
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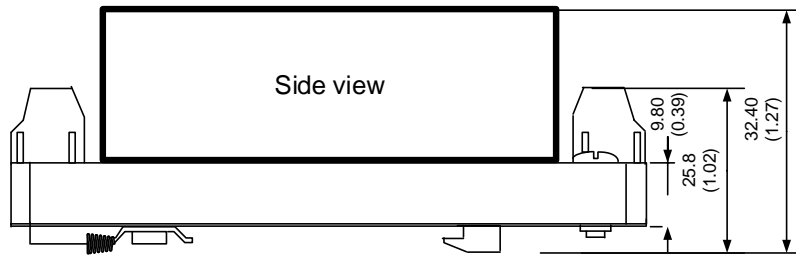
Dimensions: mm (inch)
Case Tolerance: ± 0.50 (0.02)
Wire gauge: 24-12AWG

With optional -STD bottom plate



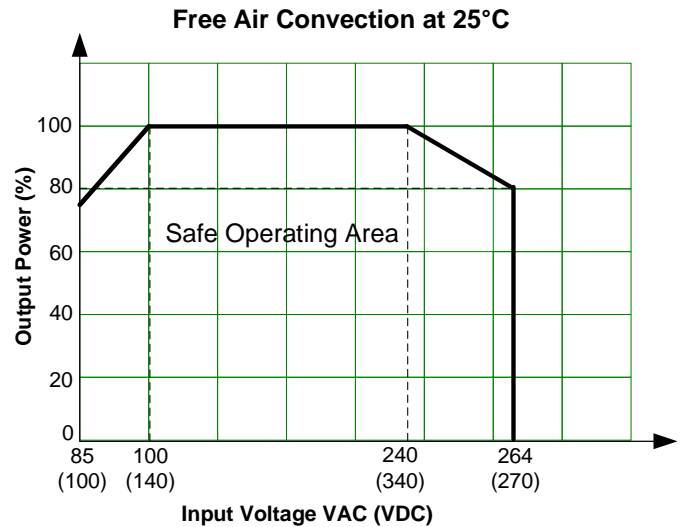
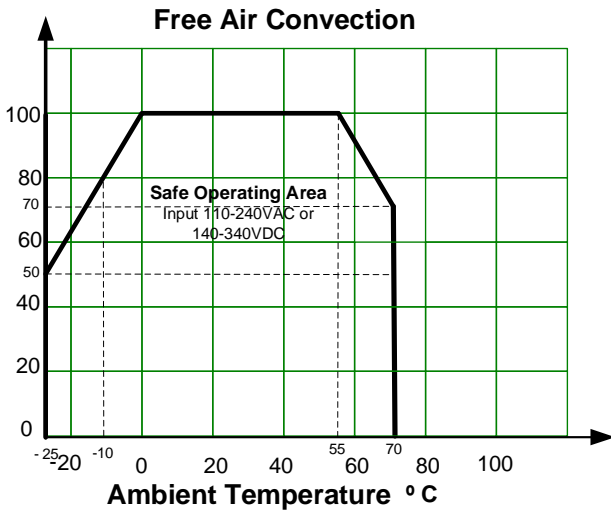
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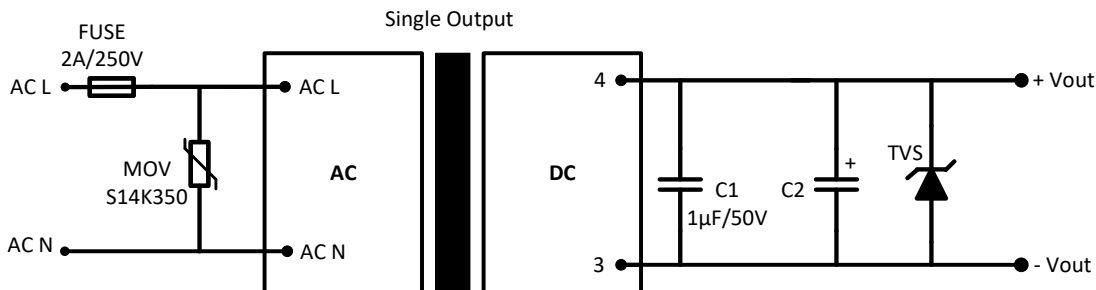


Dimensions: mm (inch)
Case Tolerance: ± 0.50 (0.02)
Wire gauge: 24-12AWG

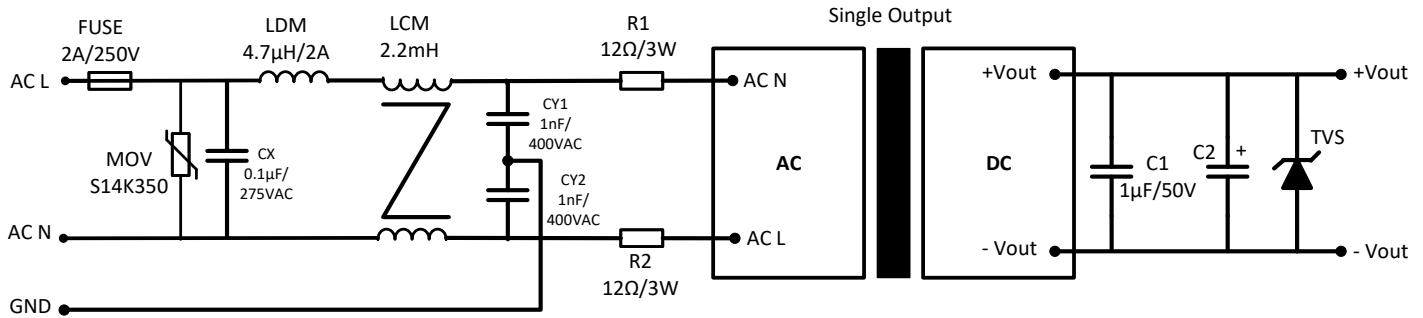
Derating



Typical application circuit



Class B compliance recommended circuit



Model	C2	TVS
3.3 & 5 Vout	220 µF / 10V	7V
9Vout	120 µF / 25V	12V
12 & 15 Vout	120 µF / 25V	20V
24 Vout	68 µF / 35V	30V

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