

Series AMEL5-VZ

5 Watt | AC-DC Converter

FEATURES:

- I/O Isolation 4000VAC
- Operating Temp: -40 °C to +70 °C
- Input: 85-264VAC, 47-63Hz, or 100-370VDC
- Over current, Over Voltage Protection
- High efficiency up to 81%
- Regulated Output
- Ultra-small package
- Short Circuit Protection

Picture Coming soon

Models

Single output



Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (μF)	Efficiency (%)
						230 VAC
AMEL5-3.3SVZ	85-264/47-63	100-370	3.3	1	5000	68
AMEL5-5SVZ	85-264/47-63	100-370	5	1	5000	75
AMEL5-9SVZ	85-264/47-63	100-370	9	0.56	1200	77
AMEL5-12SVZ	85-264/47-63	100-370	12	0.42	1200	79
AMEL5-15SVZ	85-264/47-63	100-370	15	0.33	1000	79
AMEL5-24SVZ	85-264/47-63	100-370	24	0.24	330	81

Add suffix “-W” for optional wire output terminal.

Input Specifications

Parameters	Conditions	Minimum	Typical	Maximum	Units
Current (full load)	115 VAC			130	mA
	230 VAC			70	mA
Inrush current <2ms (cold start)	115 VAC		10		A
	230 VAC		20		A
External fuse	Recommended slow blow type		1		A
Leakage Current	230VAC/50Hz			0.1	mA
Input Voltage	VAC	85		264	V
	VDC	100		370	V

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	3.3V output	±3		%
	Others	±2		%
Line regulation	Full Load	±0.5		%
Load regulation	0%-100% load	±1		%
Ripple & Noise*	20MHz Bandwidth, others	50	100	mV p-p
Hold-up time (minimum)	115VAC	5		ms
	230VAC	50		ms

*Ripple and Noise are measured at 20MHz bandwidth by using the referenced Application circuit.

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		100		KHz
Protection class		Class II		
Over Current protection	Auto recovery	≥120		% of Iout
Over voltage protection		Zener diode clamp		
Short circuit protection		Continuous, hiccup, Auto recovery		
Operating temperature	See derating curve	-40 to 70°C		°C
Storage temperature		-40 to +105		°C

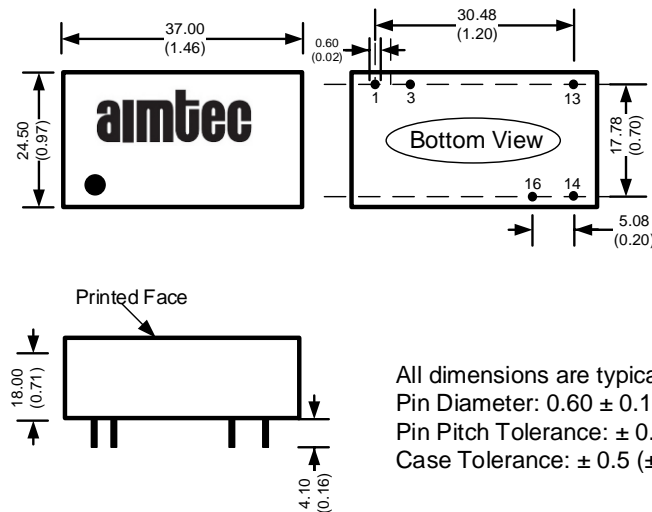
Temperature coefficient		0.02	% /°C
Cooling	Free air convection		
Case material	Plastic (flammability to UL 94V-0)		
Weight		25	g
Dimensions (L x W x H)	1.46 x 0.96 x 0.71 (37.00 x 24.50 x 18.00mm)		
MTBF	> 300,000 hrs (MIL-HDBK -217F, t=+25°C)/Full Load		

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.

Safety Specifications

Parameters		
Agency approvals	Designed to meet UL62368	
Standards	Designed to meet IEC/EN/UL 62368-1	
	EMI - Conducted and radiated emission	EN55032, class A EN55032, class B with EMC recommended circuit
	Electrostatic Discharge Immunity	IEC 61000-4-2, Contact: ±6KV/Air: ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3, 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4, ±2KV, Criteria B
		IEC 61000-4-4, ±4KV, Criteria B with EMC recommended circuit
	Surge Immunity	IEC 61000-4-5, ±1KV Criteria B
		IEC 61000-4-5, ±2KV, Criteria B with EMC recommended circuit
	RF, Conducted Disturbance Immunity	IEC 61000-4-6, 10Vrms, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11, 0-70%, Criteria B

Dimensions



All dimensions are typical: millimeters (inches)

Pin Diameter: 0.60 ± 0.10 (0.02 ± 0.004)

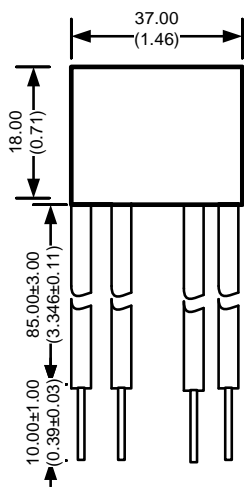
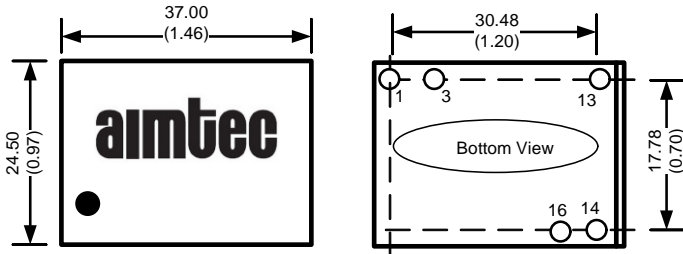
Pin Pitch Tolerance: ± 0.35 (± 0.014)

Case Tolerance: ± 0.5 (± 0.02)

Pin Out Specifications

Pin	Single
1	AC Input (L)
3	AC Input (N)
13	NC
14	-V Output
16	+V Output

Dimensions with -W options

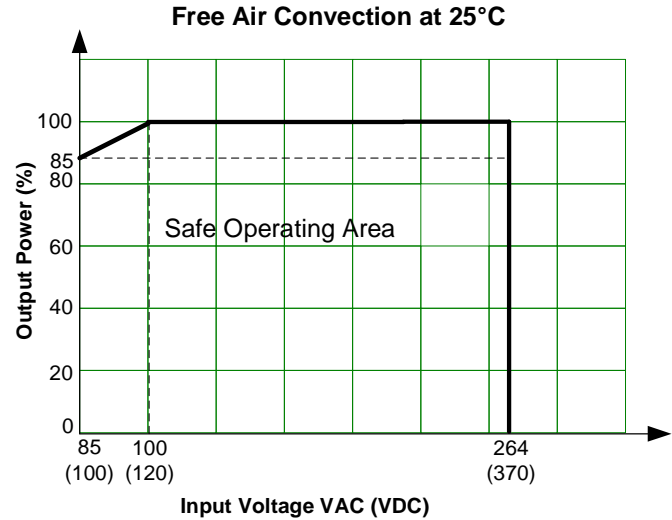
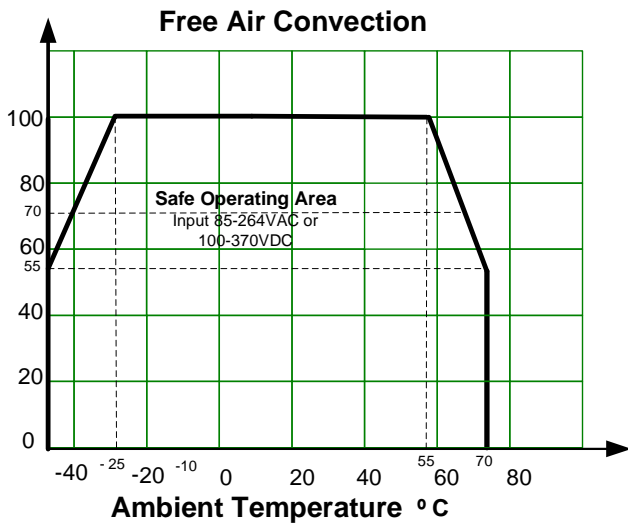


Wire is UL 1015/CSATEM listed #22AWG
Wire Tolerance: $\pm 0.30[\pm 0.012]$

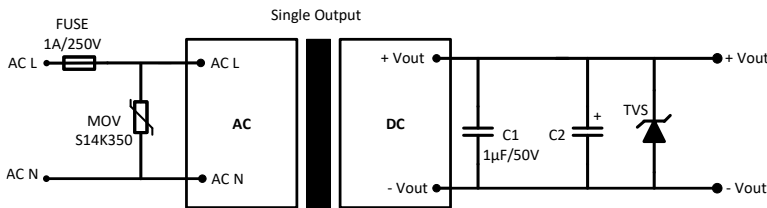
Pin Out Specifications

Pin	Single
1 brown	AC Input (L)
3 blue	AC Input (N)
13	NC
14 black	-V Output
16 red	+V Output

Derating

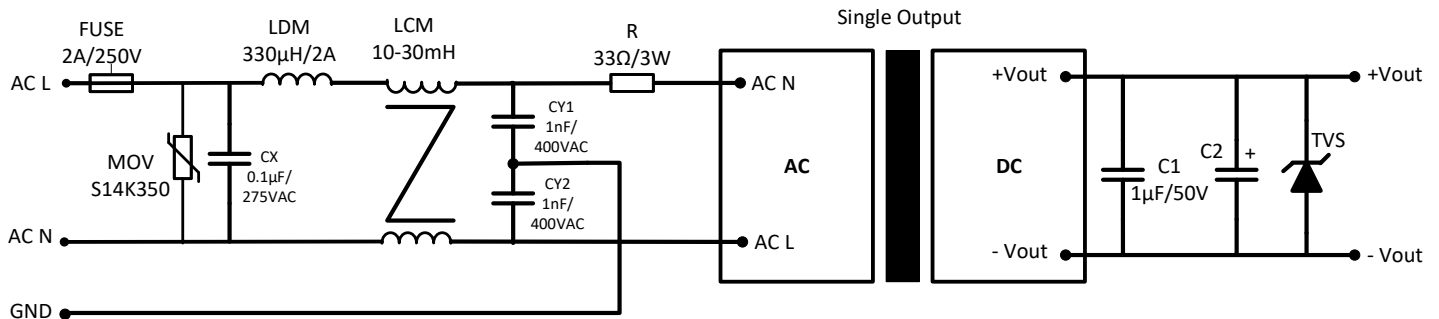


Typical application circuit



Model	C2	TVS
3.3 & 5 Vout	150 µF / 35V	7V
9Vout	120 µF / 35V	12V
12 & 15 Vout	120 µF / 35V	20V
24 Vout	68 µF / 35V	30V

EMC recommended circuit



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9Vout	120 µF / 35V	12V
12 & 15 Vout	120 µF / 35V	20V
24 Vout	68 µF / 35V	30V

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