

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

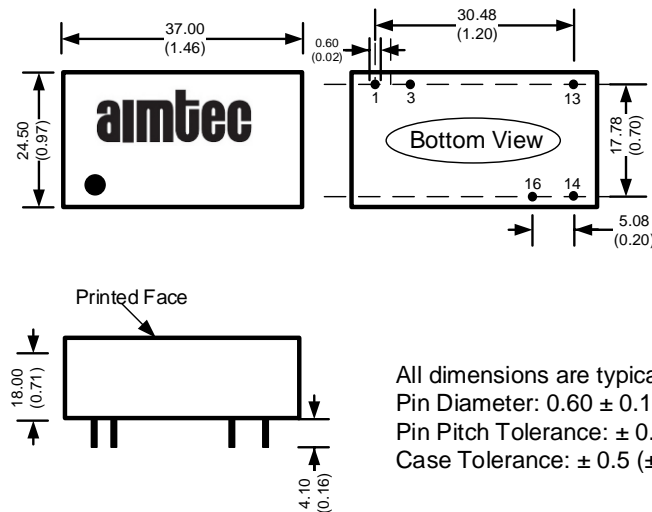
Temperature coefficient		0.02	% /°C
Cooling	Free air convection		
Case material	Plastic (flammability to UL 94V-0)		
Weight		25	g
Dimensions (L x W x H)	1.46 x 0.96 x 0.71 (37.00 x 24.50 x 18.00mm)		
MTBF	> 300,000 hrs (MIL-HDBK -217F, t=+25°C)/Full Load		

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)

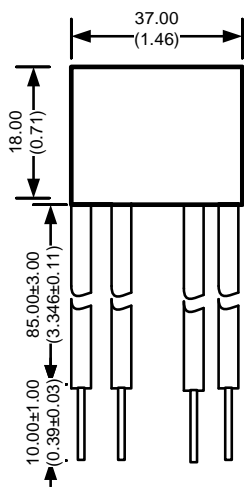
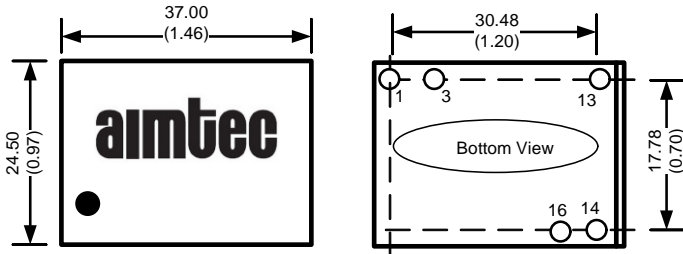
Pin Pitch Tolerance: ± 0.35 (± 0.014)

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

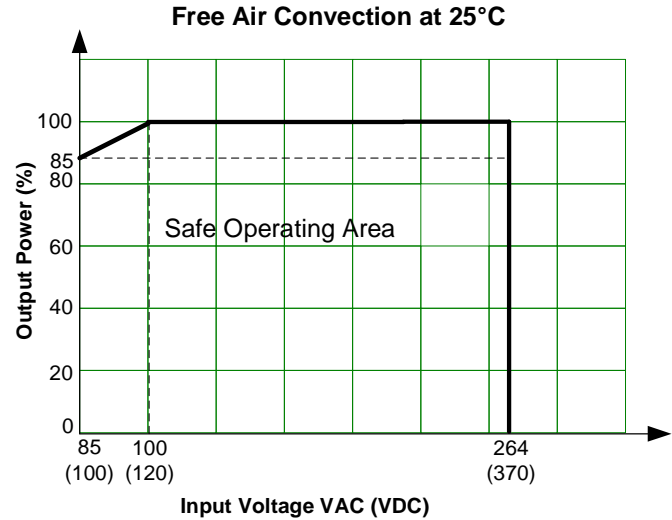
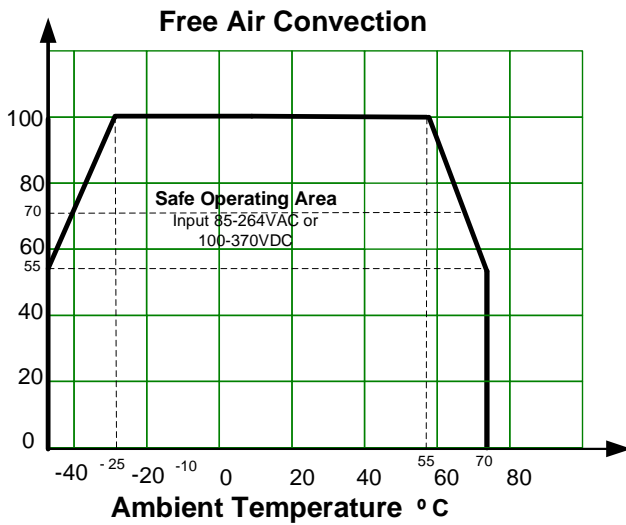


Wire is UL 1015/CSATEM listed #22AWG
Wire Tolerance: $\pm 0.30[\pm 0.012]$

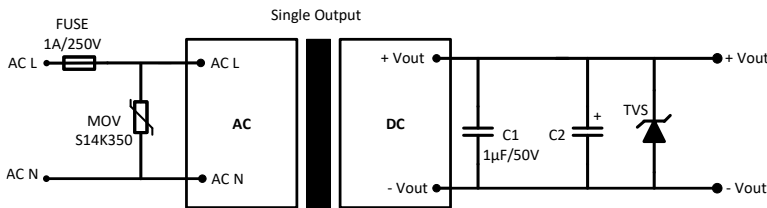
Pin Out Specifications

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

Derating

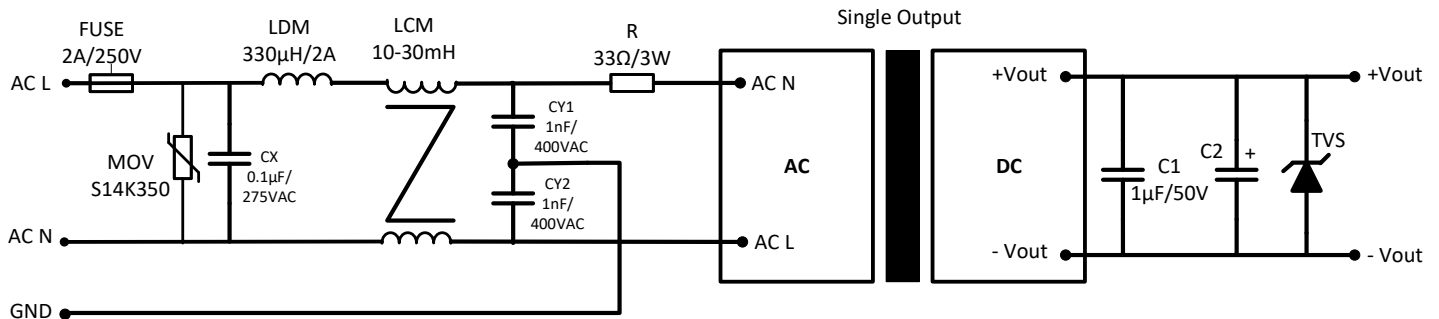


Typical application circuit



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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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

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.

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