

## Series AME5-CJZ

### 5 Watt | AC-DC / DC-DC Converter



#### FEATURES:

- I/O Isolation 3000VAC
- Operating Temp: -25 °C to +70 °C
- Input: 85-264VAC, 47-63Hz, or 120-370VDC
- Over current, Over Voltage Protection
- Continuous Short circuit protection
- Energy Star compliant
- Compact package
- Efficiency up to 82%

#### Models Single output



Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (μF)	Efficiency 230VAC (%)
AME5-3.3SCJZ	85-264/47-63	120-370	3.3	1.25	8100	70
AME5-5SCJZ	85-264/47-63	120-370	5	1	6800	75
AME5-9SCJZ	85-264/47-63	120-370	9	0.55	1200	77
AME5-12SCJZ	85-264/47-63	120-370	12	0.42	1000	79
AME5-15SCJZ	85-264/47-63	120-370	15	0.330	680	80
AME5-24SCJZ	85-264/47-63	120-370	24	0.23	270	82

#### Models Dual output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (μF)	Efficiency 230VAC (%)
AME5-5DCJZ	85-264/47-63	120-370	±5	±0.50	±1480	75
AME5-12DCJZ	85-264/47-63	120-370	±12	±0.21	±130	79
AME5-15DCJZ	85-264/47-63	120-370	±15	±0.16	±110	79
AME5-24DCJZ	85-264/47-63	120-370	±24	±0.1	±16	80

#### Models Triple output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Auxiliary Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (μF)	Efficiency 230VAC (%)
AME5-505TCJZ	85-264/47-63	120-370	5	±5	0.8/±0.10	2400/370	70
AME5-512TCJZ	85-264/47-63	120-370	5	±12	0.6/±0.10	1600/170	73
AME5-515TCJZ	85-264/47-63	120-370	5	±15	0.6/±0.08	1760/80	74
AME5-524TCJZ	85-264/47-63	120-370	5	±24	0.6/±0.05	1170/50	75

#### Models Asymmetric Separated Dual output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (μF)	Efficiency 230VAC (%)
AME5-505DCJZ	85-264/47-63	120-370	5/5	0.9/0.1	3360/370	71
AME5-512DCJZ	85-264/47-63	120-370	5/12	0.75/0.1	2400/170	73
AME5-515DCJZ	85-264/47-63	120-370	5/15	0.7/0.1	2160/170	73
AME5-524DCJZ	85-264/47-63	120-370	5/24	0.6/0.1	3000/100	75

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

### Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current (full load)	115 VAC		125	mA
	230 VAC		80	mA
Inrush current <2ms (cold start)	115 VAC	10		A
	230 VAC	20		A
Leakage current	230VAC/50Hz		0.3	mA
External fuse	Recommended slow blow type	1		A

### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Line regulation	Full load, main output	±0.5		%
	Full load, auxiliary output	±1.5		%
Load regulation (single output)	10-100% load	±1		%
Load Regulation (dual output)	10-100% Balanced load	±2		%
Load Regulation (triple & asymmetric separated output)	10-100% Balanced load, main output	±3		
	10-100% Balanced load, auxiliary output	±5		
Minimum load	Single output	0		%
	Others	10		%
Ripple & Noise *		50	150	mV p-p
Hold-up time	115VAC, 20MHz bandwidth	15		ms
	230VAC, 20MHz bandwidth	80		ms

### Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		3000	VAC
Isolation voltage between Main and Auxiliary output	60 sec		500	VDC
Isolation Resistance		>1000		MΩ

### General Specifications

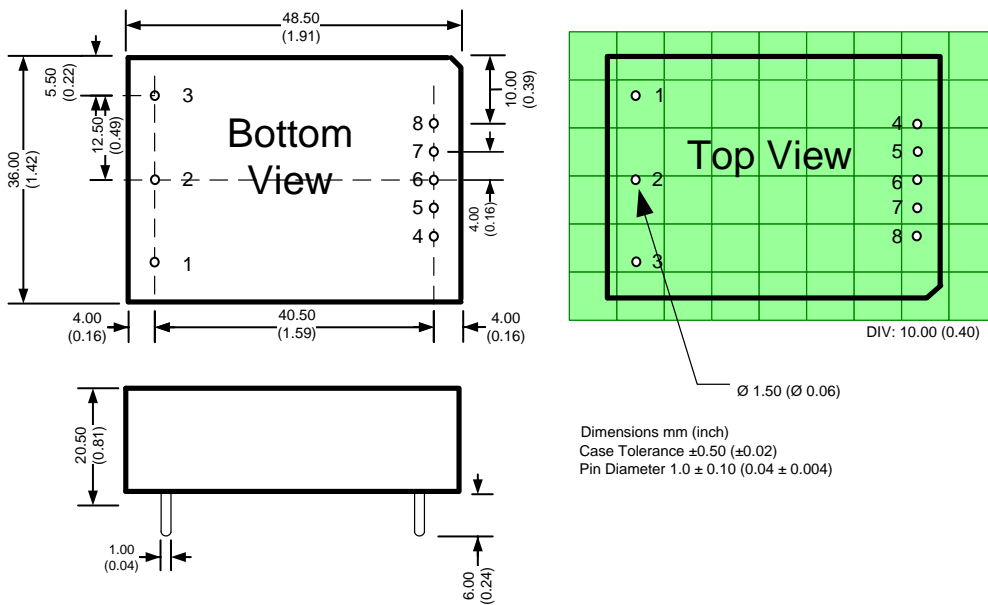
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	Single and asymmetrical dual output		140	KHz
	Dual and triple output	65		
Protection class		Class I		
Over current protection		≥110		% of Iout
Over voltage protection		Zener diode clamp		
Short circuit protection		Continuous, Auto recovery		
Operating temperature	See derating curve	-25 to +70		°C
Storage temperature		-25 to +105		°C
Maximum Case temperature			100	°C
Temperature coefficient		±0.02		% / °C
Cooling	Free air convection			
Humidity	Non condensing		95	% RH
Case material	Plastic (flammability to UL 94V-0)			
Weight	PCB mountable models:	55		g
	With optional -ST mounting plate:	100		
	With optional -STD mounting plate:	140		
Dimensions (L x W x H)	PCB mountable models:	1.909 x 1.417 x 0.807 inches (48.50 x 36.00 x 20.50mm)		
	With optional -ST mounting plate:	3.783 x 2.126 x 1.142 inches (96.10 x 54.00 x 29.00 mm)		
	With optional -STD mounting plate:	3.783 x 2.126 x 1.323 inches (96.10 x 54.00 x 33.60 mm)		
MTBF	> 300,000 hrs (MIL-HDBK -217F, t <sub>a</sub> +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	cULus (single output models only), CE	
Standards	Information technology Equipment	IEC/EN/UL 60950-1
	EMI - Conducted and radiated emission	EN55022, class B
	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 3
	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

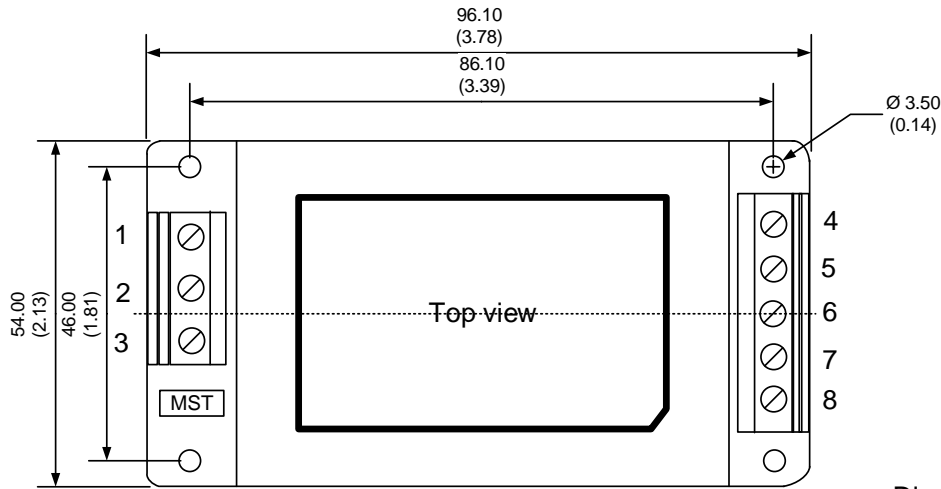
## Dimensions



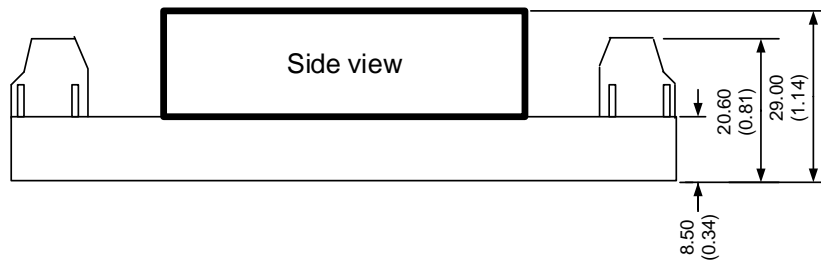
## Pin Out Specifications

Pin	Single	Dual	Triple	Asymmetric Dual
1	Ground	Ground	Ground	Ground
2	AC Input (N)	AC Input (N)	AC Input (N)	AC Input (N)
3	AC Input (L)	AC Input (L)	AC Input (L)	AC Input (L)
4	-V Output	-V Output	-V Output 1	-V Output 1
5	No pin	No pin	+V Output 1	+V Output 1
6	No pin	Common	-V Output 2	No pin
7	No pin	No pin	Common	-V Output 2
8	+V Output	+V Output	+V Output 2	+V Output 2

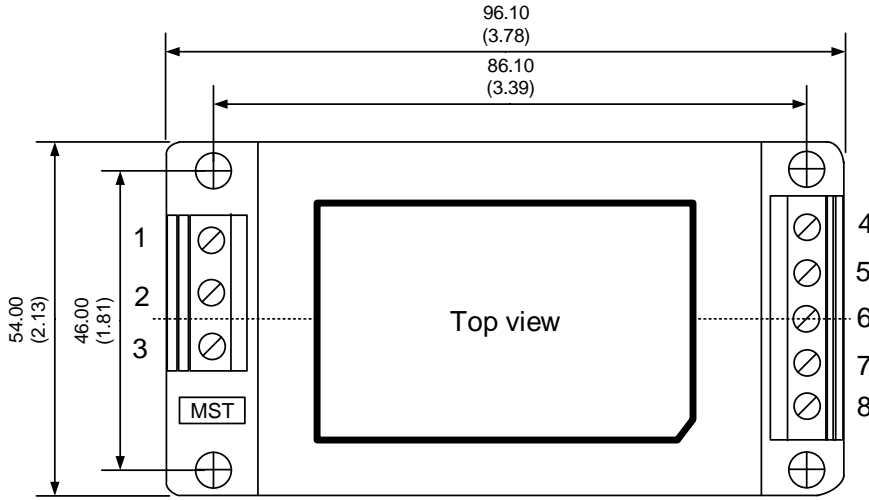
With optional -ST bottom plate



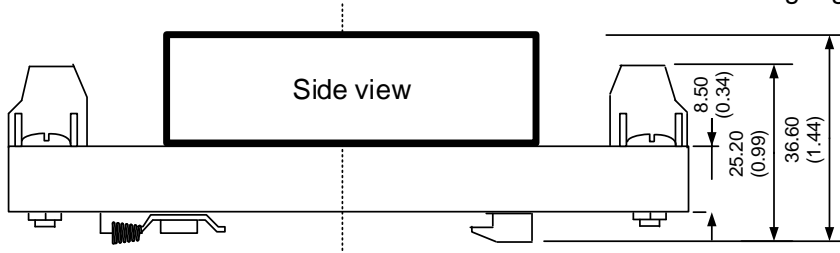
Dimensions: mm (inch)  
Case Tolerance:  $\pm 0.50$  (0.02)  
Wire gauge: 24-12AWG



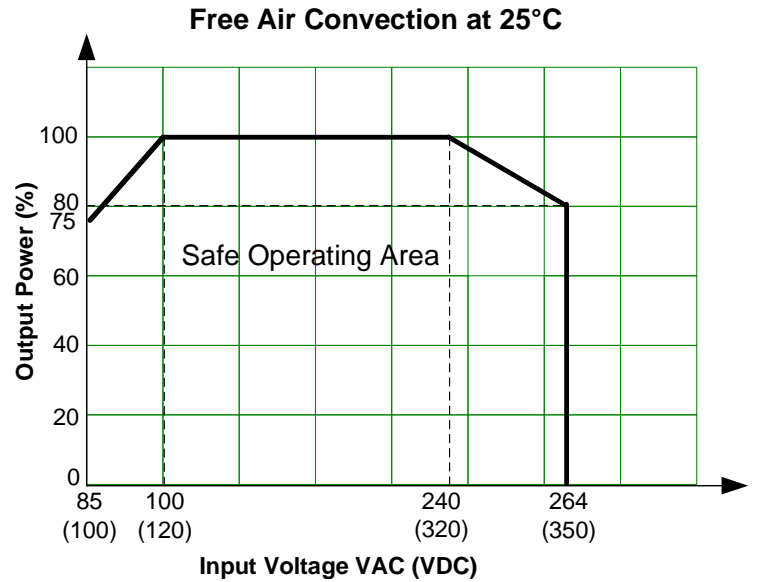
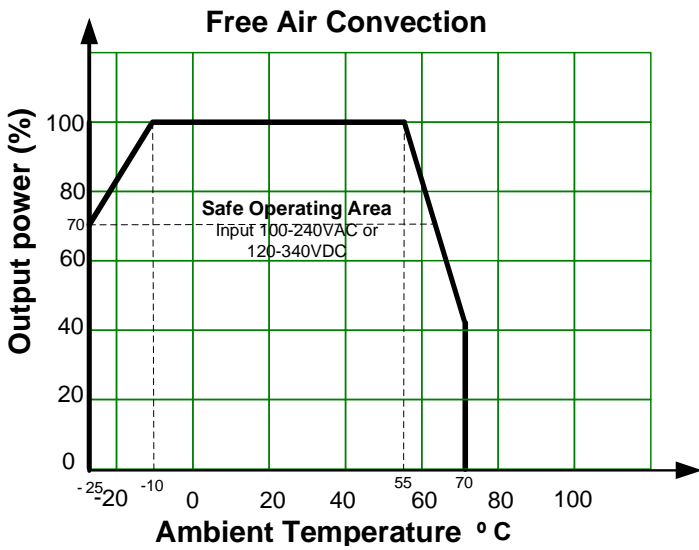
With optional -STD bottom plate



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

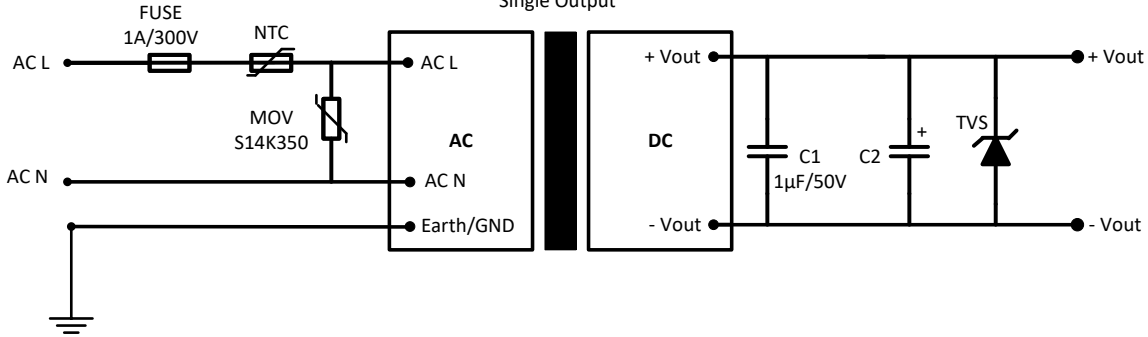


**Derating**

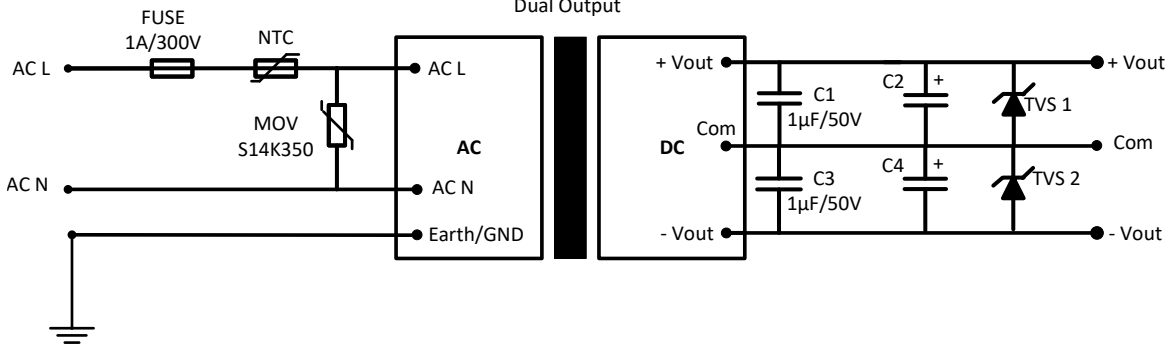


Typical application circuits

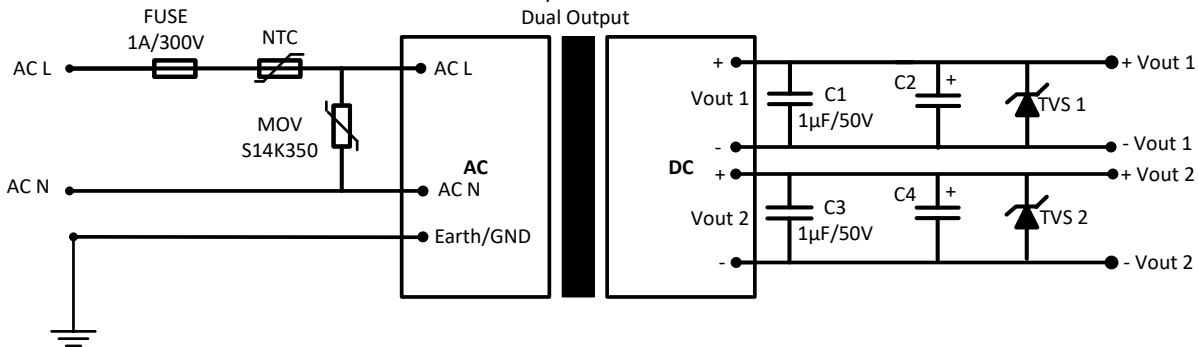
Single Output



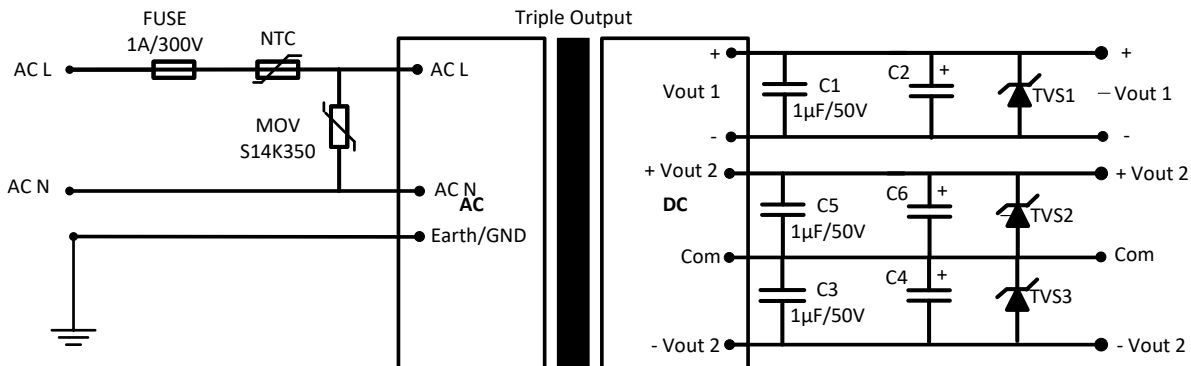
Dual Output



Asymmetric Dual Output



Triple Output



Model	C2	C4	C6	TVS1	TVS2	TVS3
Single 3.3 & 5 Vout	330 $\mu$ F	-	-	7V	-	-
Single 9 Vout	120 $\mu$ F	-	-	12V	-	-
Single 12 Vout	120 $\mu$ F	-	-	20V	-	-
Single 15 Vout	68 $\mu$ F	-	-	20V	-	-
Single 24 Vout	68 $\mu$ F	-	-	30V	-	-
Dual $\pm$ 5 Vout	120 $\mu$ F	120 $\mu$ F	-	7V	7V	-
Dual $\pm$ 12 Vout	68 $\mu$ F	68 $\mu$ F	-	20V	20V	-
Dual $\pm$ 15 Vout	47 $\mu$ F	47 $\mu$ F	-	20V	20V	-
Dual $\pm$ 24 Vout	10 $\mu$ F	10 $\mu$ F	-	30V	30V	-
Triple 5/ $\pm$ 5 Vout	220 $\mu$ F	22 $\mu$ F	22 $\mu$ F	7V	7V	7V
Triple 5/ $\pm$ 12 & 5/ $\pm$ 15 Vout	120 $\mu$ F	22 $\mu$ F	22 $\mu$ F	7V	20V	20V
Triple 5/ $\pm$ 15 Vout	120 $\mu$ F	22 $\mu$ F	22 $\mu$ F	7V	30V	30V
Dual 5/5 Vout	220 $\mu$ F	22 $\mu$ F	-	7V	7V	-
Dual 5/12 Vout	220 $\mu$ F	22 $\mu$ F	-	7V	20V	-
Dual 5/15 Vout	120 $\mu$ F	22 $\mu$ F	-	7V	20V	-
Dual 5/24 Vout	120 $\mu$ F	22 $\mu$ F	-	7V	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](http://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](http://www.aimtec.com).