

Series AME40-MJZ

40 Watt | AC-DC / DC-DC Converter



FEATURES:

- I/O Isolation 4000VAC
- Operating Temp: -40 °C to +70 °C
- Input: 85-264VAC/47-440Hz, or 120-370VDC
- Over current, Over Voltage Protection
- Continuous Short circuit protection
- Low no load consumption $\leq 0.5W$
- Efficiency up to 84%
- Output Voltage adjustment



Models

Single output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (μF)	Efficiency 230VAC (%)
AME40-12SMJZ	85-264/47-440	120-370	12	3.33	9000	84
AME40-24SMJZ	85-264/47-440	120-370	24	1.66	2000	84
AME40-48SMJZ	85-264/47-440	120-370	48	0.83	1000	84

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current (full load)	115 VAC		1	A
	230 VAC		0.6	A
Inrush current <2ms (cold start)	115 VAC	30		A
	230 VAC	50		A

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full load	± 2		%
Line regulation	LL-HL, Full Load	± 0.5		%
Load regulation	1-100% load	± 1		%
Ripple & Noise	20MHz bandwidth	50	100	mV p-p
Hold-up time	115VAC, 20MHz bandwidth	15		ms
	230VAC, 20MHz bandwidth	80		ms
Voltage adjustment range	Single output only		± 10	% of Vout

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		4000	VAC
Isolation Resistance		>100		M Ω

General Specifications

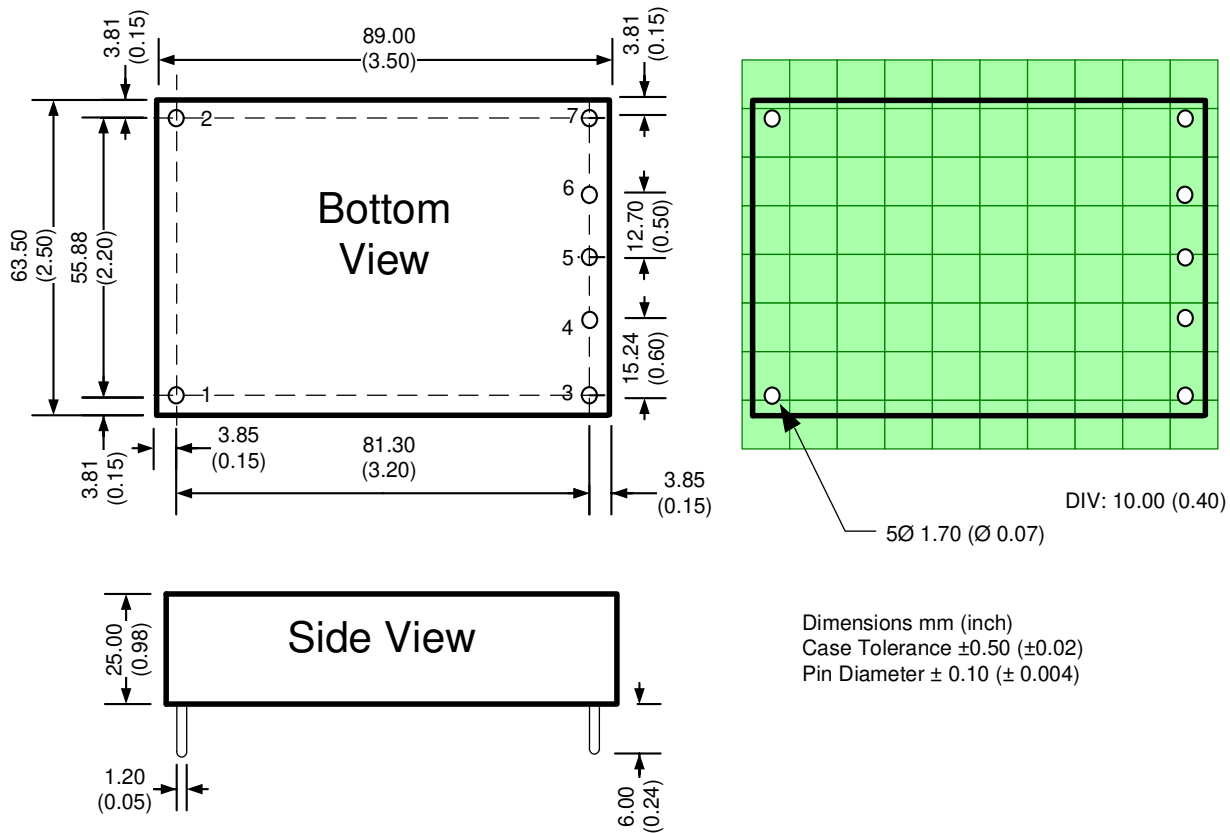
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	65		KHz
Protection class		Class II		
Over current protection		≥ 110		% of Iout
Over voltage protection		Zener diode clamp		
Short circuit protection		Continuous, Auto recovery		
Operating temperature	See derating curve	-40 to +70		°C
Storage temperature		-40 to +85		°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		225		g
Dimensions (L x W x H)		3.5 x 2.5 x 0.98 inches	89.0 x 63.5 x 25.0 mm	
MTBF		> 200,000 hrs (MIL-HDBK -217F, $t = +25^{\circ}C$)/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		
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

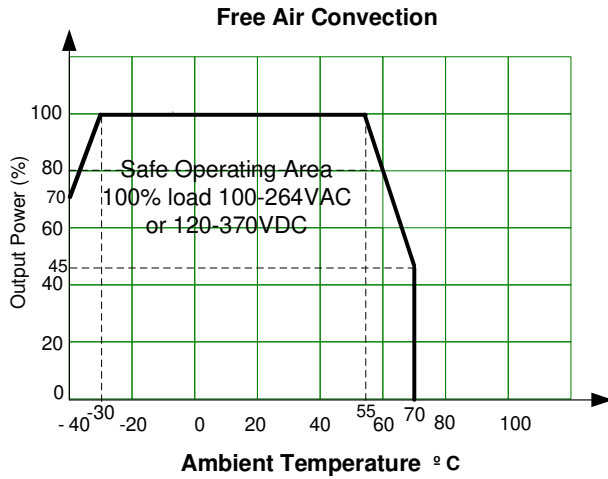


Pin Out Specifications

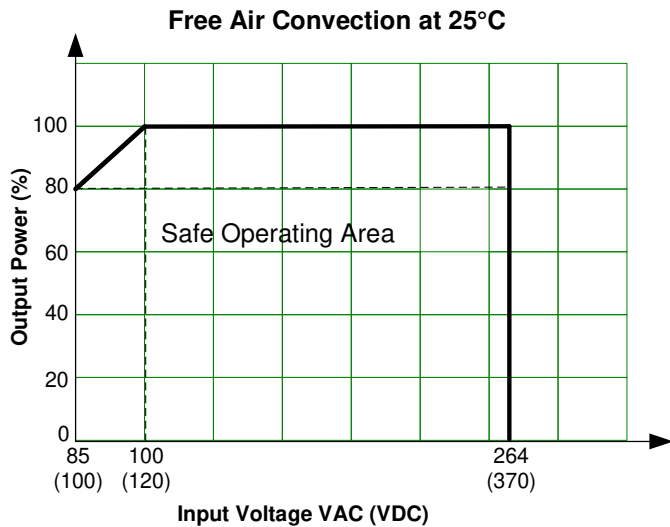
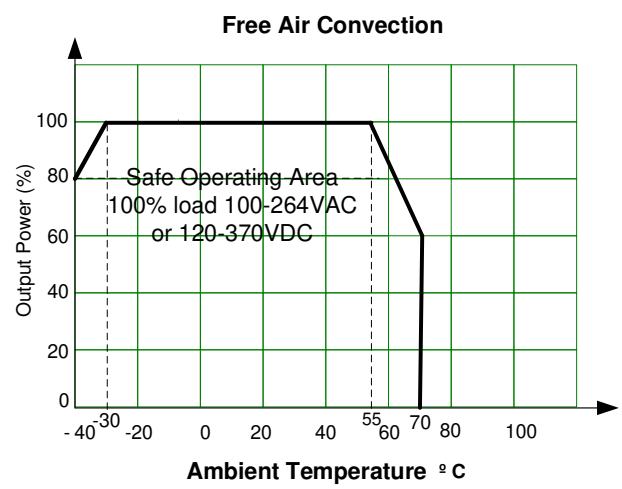
Pin	Single
1	AC Input (L)
2	AC Input (N)
3	+V Output
4	No pin
5	-V Output
6	No pin
7	Trim

Deratings

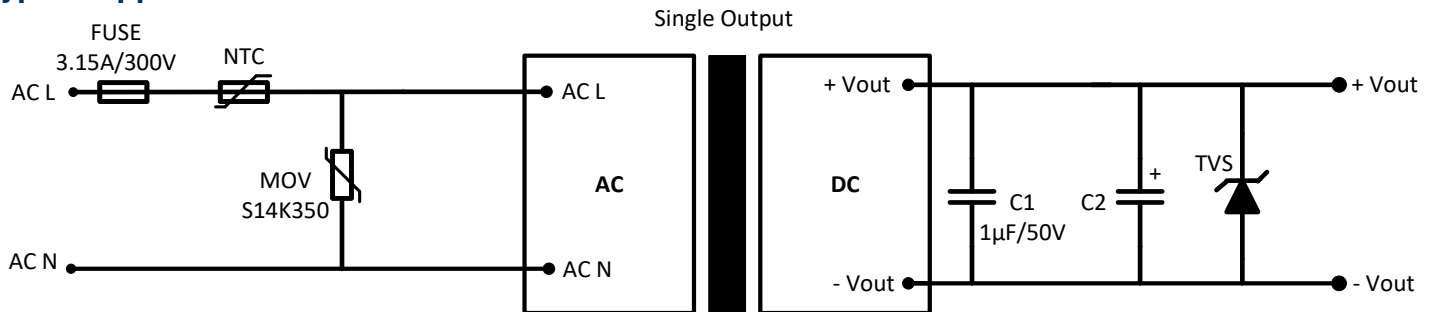
AME40-12SMJZ



AME40-24SMJZ & AME40-48SMJZ



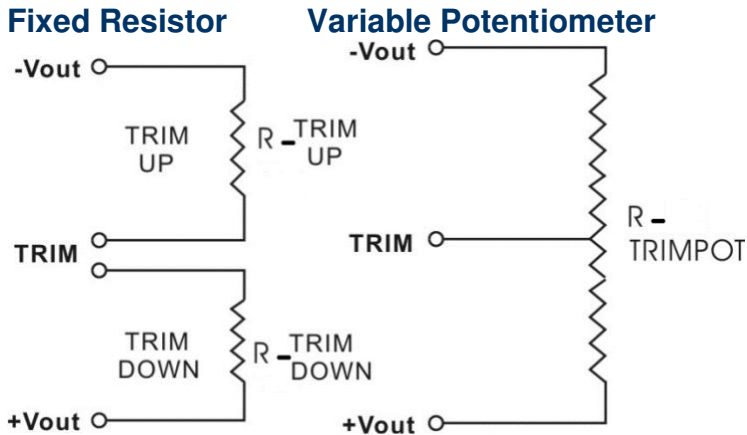
Typical application circuits



Model	C2	TVS
Single 12 Vout	220 µF	20V
Single 24 Vout	120 µF	30V
Single 48 Vout	100 µF	64V

Trimming

Output voltage can be externally trimmed by utilizing the methods as shown below



Leave open if not used.

AME40-12SMJZ

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	11.88	11.76	11.64	11.52	11.4	11.28	11.16	11.04	10.92	10.8
Rt down (KΩ)	183.233	111.59	79.474	61.246	49.499	41.299	35.249	30.602	26.921	23.933
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	12.12	12.24	12.36	12.48	12.6	12.72	12.84	12.96	13.08	13.2
Rt up (KΩ)	211.778	57.03	32.596	22.642	17.238	13.845	11.516	9.819	8.527	7.511

AME40-24SMJZ

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	23.76	23.52	23.28	23.04	22.8	22.56	22.32	22.08	21.84	21.6
Rt down (KΩ)	471.081	287.942	205.845	159.249	129.221	108.258	92.793	80.914	71.504	63.865
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	24.24	24.48	24.72	24.96	25.2	25.44	25.68	25.92	26.16	26.4
Rt up (KΩ)	239.556	64.606	36.982	25.728	19.619	15.783	13.15	11.232	9.771	8.622

AME40-48SMJZ

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	47.52	47.04	46.56	46.08	45.6	45.12	44.64	44.16	43.68	43.2
Rt down (KΩ)	1216.754	756.639	545.609	424.485	345.902	290.797	250.014	218.613	193.691	173.429
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	48.48	48.96	49.44	49.92	50.4	50.88	51.36	51.84	52.32	52.8
Rt up (KΩ)	374	86.766	48.699	33.664	25.613	20.597	17.172	14.684	12.796	11.313

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