

Series AMEL20-CJZ

20 Watt | AC-DC / DC-DC Converter

Picture Coming Soon

FEATURES:

- I/O Isolation 4000VAC
- Operating Temp: -40°C to +70°C
- Over current, Over Voltage Protection
- Input: 85-264VAC, 47-440Hz, or 100-370VDC
- Low no load consumption $\leq 0.3W$
- Continuous Short Circuit Protection
- Up to 83% efficiency
- Low ripple and noise

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 (%)
AMEL20-3.3SCJZ	85-264/47-440	100-370	11.88	3.3	3.6	10,000	74
AMEL20-5SCJZ	85-264/47-440	100-370	18	5	3.6	6600	78
AMEL20-9SCJZ	85-264/47-440	100-370	20	9	2.2	4400	79
AMEL20-12SCJZ	85-264/47-440	100-370	20	12	1.6	3000	82
AMEL20-15SCJZ	85-264/47-440	100-370	20	15	1.3	2000	83
AMEL20-24SCJZ	85-264/47-440	100-370	20	24	0.8	800	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. (ex. AMEL20-3.3SCJZ-ST, AMEL20-3.3SCJZ-STD).

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	0.37		A
	230VAC	0.24		A
Inrush current <2ms (cold start)	115VAC	12		A
	230VAC	36		A
External fuse	slow blow type	3.15		A

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	50	120	mV p-p
Hold up time	115VAC	10		ms
	230VAC	55		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	100		KHz
Protection class		Class II		
Over current protection	Auto recovery	≥ 110		% of Iout
Over voltage protection		Zener Diode Clamp		
Short circuit protection		Continuous		
Short circuit restart		Auto recovery		
Operating temperature	See derating table	-40 to +70		°C
Maximum case temperature			100	°C

General Specifications (continued)

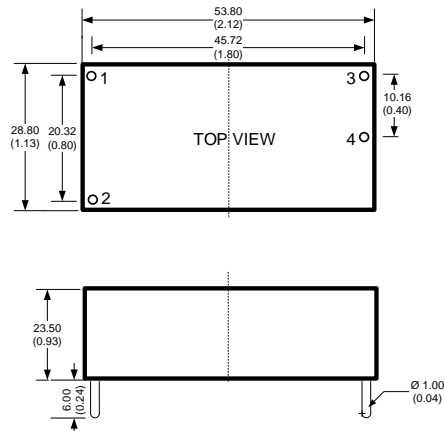
Parameters	Conditions	Typical	Maximum	Units
Storage temperature		-40 to +85		°C
Temperature coefficient		±0.02		% / °C
Cooling		Free air convection		
Humidity	Non condensing		95	% RH
Case material	Heat resistant black Plastic (flammability to UL 94V-0)			
Weight	PCB mountable models		60	g
	With optional -ST mounting plate:		80	
	With optional -STD mounting plate:		100	
Dimensions (L x W x H)	PCB mountable models	2.11 x 1.13 x 0.92 inches (53.80 x 28.80 x 23.50mm)		
	With optional -ST mounting plate:	2.99 x 1.24 x 1.27 inches (76.00 x 31.50 x 32.30 mm)		
	With optional -STD mounting plate:	2.99 x 1.24 x 1.45 inches (76.00 x 31.50 x 36.90 mm)		
MTBF	> 300 000 hrs (MIL-HDBK -217F, t=+25°C)/Full Load			

Safety Specifications

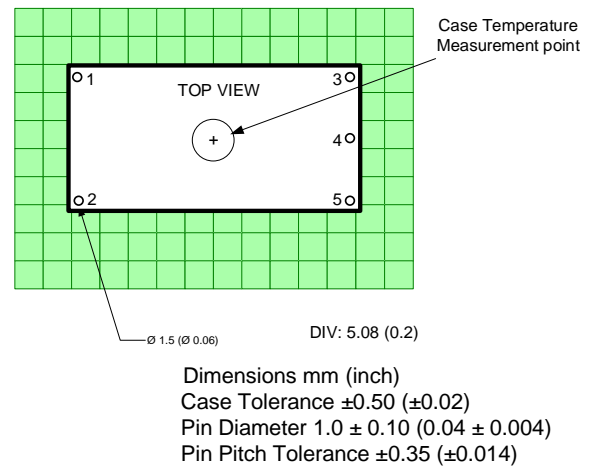
Parameters		
Standards	Information technology Equipment	Meets IEC/EN/UL 62368-1
	EMI - Conducted and radiated emission	EN55032, class B
	Electrostatic Discharge Immunity	IEC 61000-4-2 Level 3
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 Level 3
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 Level 4
	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

Pin Out Specifications

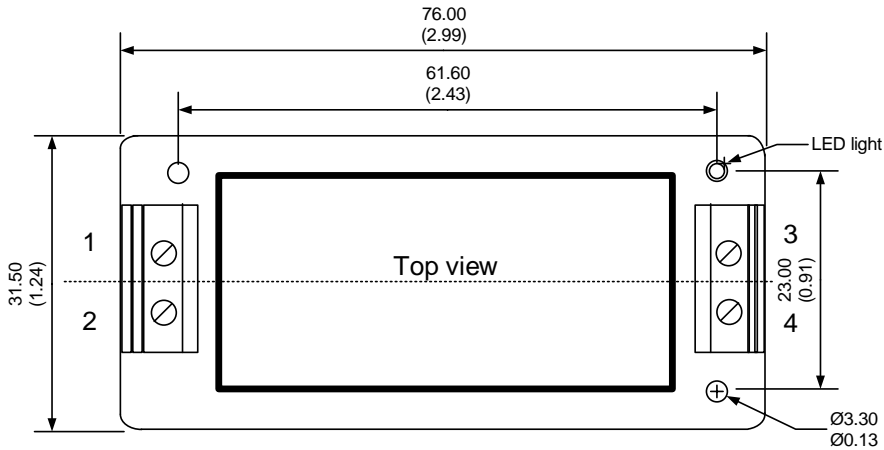
Pin	Single
1	AC Input (N)
2	AC Input (L)
3	+V Output
4	-V Output



Dimensions

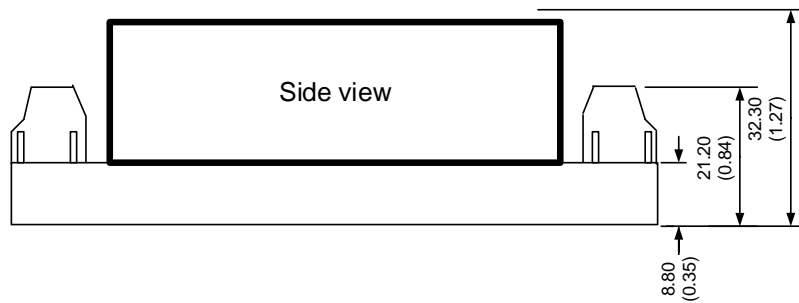


With optional -ST bottom plate



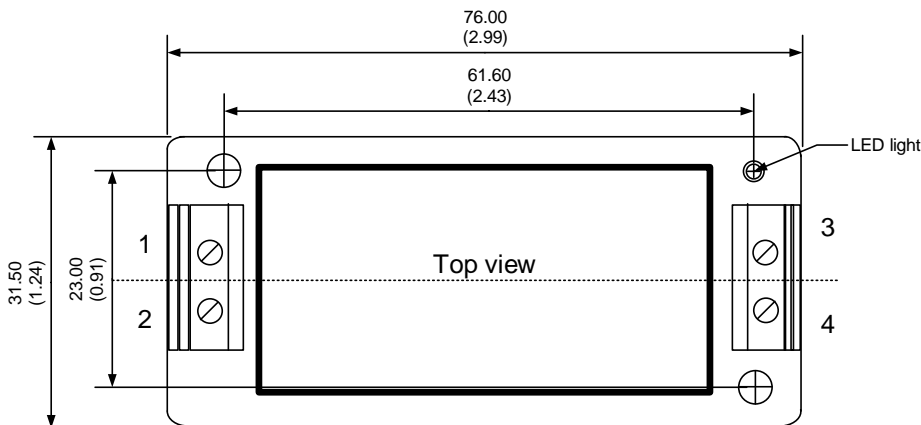
Pin Out Specifications

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



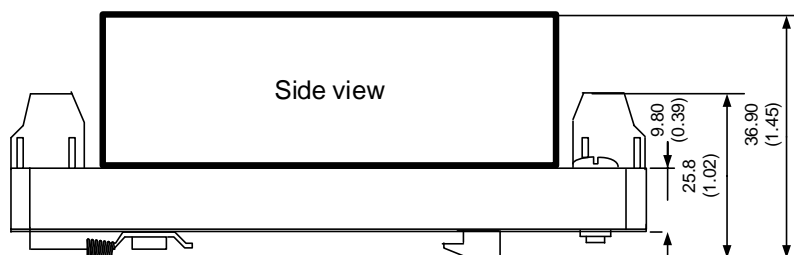
Dimensions: mm (inch)
Case Tolerance: ± 0.50 (0.02)
Wire gauge: 24-12AWG

With optional -STD bottom plate



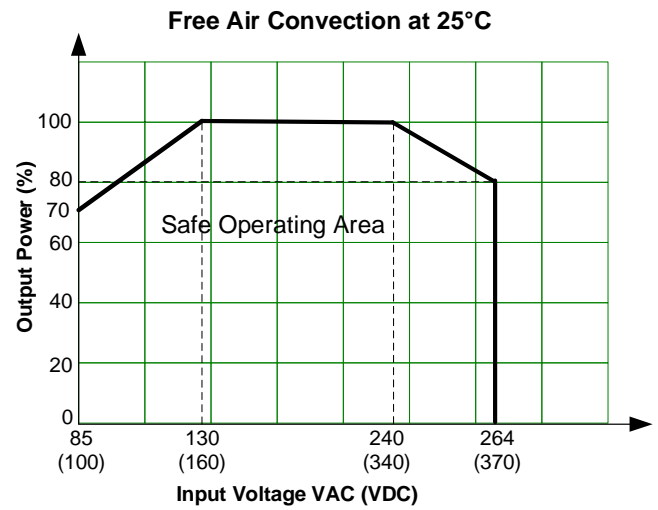
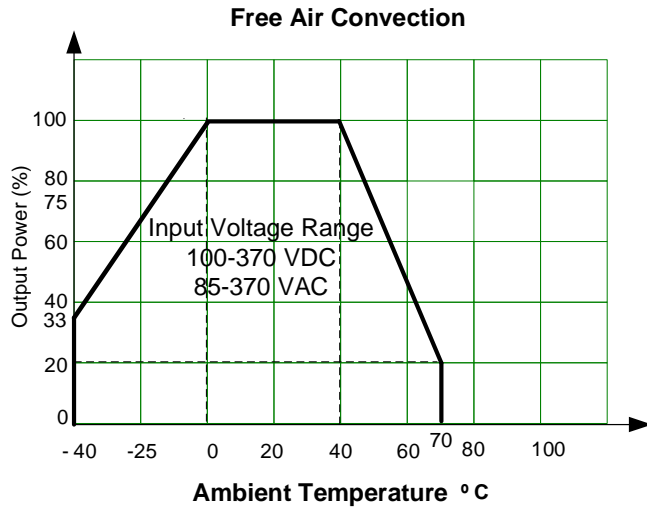
Pin Out Specifications

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

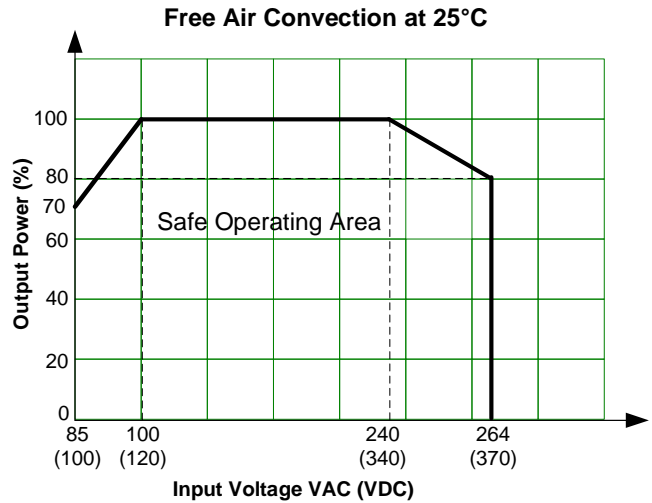
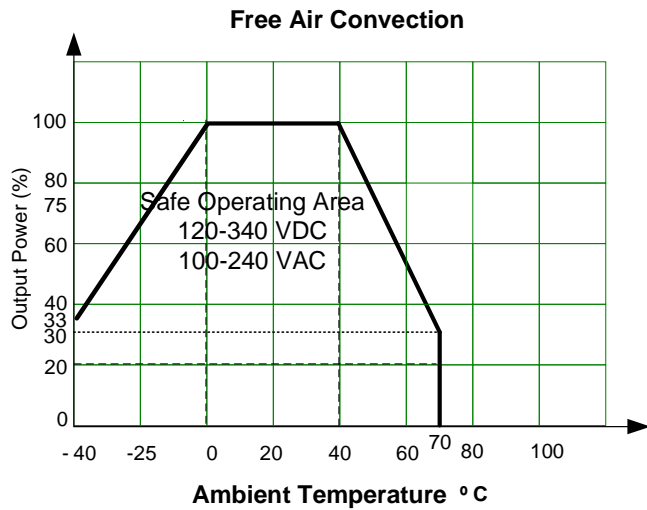


Dimensions: mm (inch)
Case Tolerance: ± 0.50 (0.02)
Wire gauge: 24-12AWG

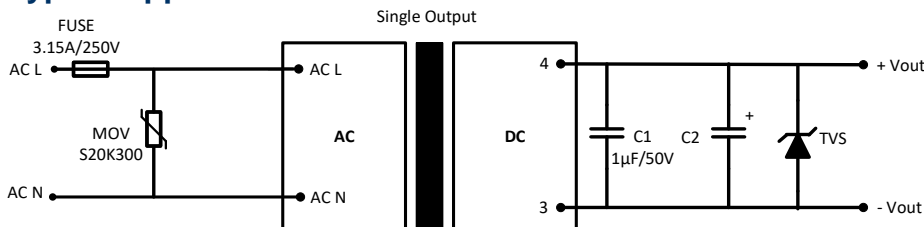
Derating for AMEL20-3.3SCJZ and AMEL20-5SCJZ



Derating for all other part numbers

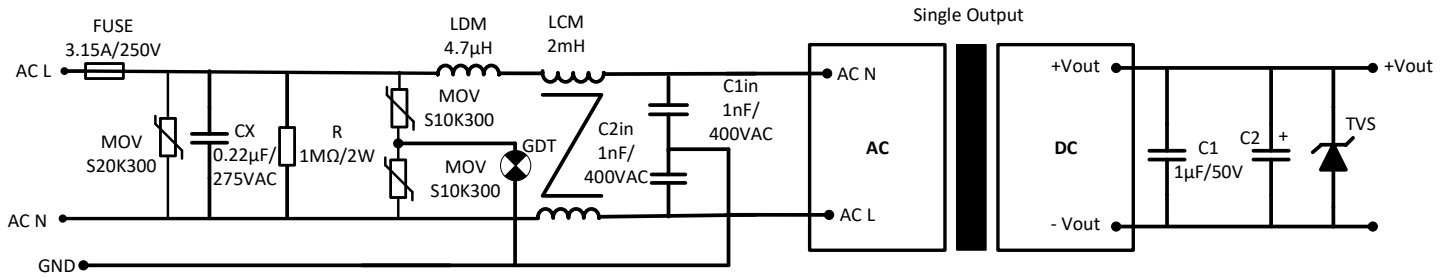


Typical application circuit



Model	C2	TVS
3.3 & 5 Vout	220 µF / 16V	7V
9 Vout	120 µF / 25V	12V
12 & 15 Vout	120 µF / 25V	20V
24 Vout	68 µF / 35V	30V

To meet surge Immunity $\pm 4KV/\pm 6KV$ recommended circuit



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 than the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.