

AMES200-NZ







The AMES200-NZ is an AC/DC converter that offers much greater cost effectiveness due to material normalization and production automation also leading to improved reliability and performance. Offering a commercial input voltage range of 90-264VAC and an output voltage range from 5-48V, this series will offer many benefits to your new system design.

This new series offers great operating temperatures, from -30°C to 70°C and also features an isolation of 3000VAC for improved reliability and system safety. Furthermore, a high MTBF of 300,000h, output short circuit protection (OSCP), output over-current protection (OCP), output over-voltage protection (OVP) and over-temperature protection (OTP) come standard with the series.

The AMES200-NZ is great for street lighting controls, grid power, instrumentation, industrial controls, communication, and civil applications.

Features



- Universal Input: 90 264VAC/240 373VDC
- Operating Temp: -30 °C to +70 °C
- High isolation voltage: Up to 3000VAC
- Low ripple & noise, 200mV(p-p) typ.
- Output short circuit, over-current, over-voltage and over temperature protection
- Regulated Output
- Optional conformal coating
- Surge immunity: 300VAC for 5s







Training



Product Training Video (click to open)

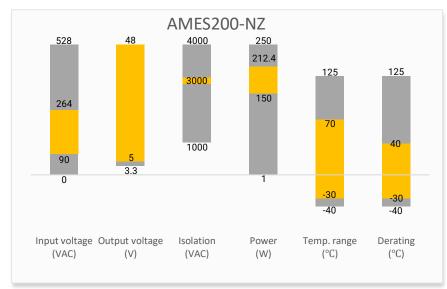
Press Release

Coming Soon!

Application Notes

Summary





Applications









Power Grid

Industrial

Telecom

Instrumentation



Models & Specifications



Single Output								
Model	Input Voltage (VAC/VAC/Hz)*	Input Voltage (VDC)**	Max Output Wattage (W)	Output Voltage (V)	Output Voltage Adjustable Range (V)	Output Current (A)	Maximum capacitive load (μF)	Efficiency @230VAC (%)
AMES200-5SNZ	90-132/ 180-264/ 47-63	240-373	150/200***	5	4.5 - 5.5	30	10000	87
AMES200-12SNZ	90-132/ 180-264/ 47-63	240-373	204	12	10.2 - 13.8	17	4000	87.5
AMES200-15SNZ	90-132/ 180-264/ 47-63	240-373	210	15	13.5 - 18	14	3300	88
AMES200-24SNZ	90-132/ 180-264/ 47-63	240-373	211.2	24	21.6 - 28.8	8.8	1500	88.5
AMES200-36SNZ	90-132/ 180-264/ 47-63	240-373	212.4	36	32.4 - 39.6	5.9	1500	89
AMES200-48SNZ	90-132/ 180-264 /47-63	240-373	211.2	48	43.2 - 52.8	4.4	470	89.5

^{*} Switch the voltage level switch to 115 for 90-132VAC input voltage and 230 for 180-264VAC input voltage.

*** AMES200-5SNZ can output 200W for 60 sec and 150W continuously.

Add suffix "-P" for optional terminal protective cover (ex. AMES200-5SNZ-P is terminal with protective cover version) or suffix "-Q" for optional conformal coating (ex. AMES200-5SNZ-Q is conformal coating version).

Input Specifications				
Parameters	Conditions	Typical	Maximum	Units
Innut current	115VAC		5	А
Input current	230VAC		3	Α
Inrush current	115VAC, 230VAC, Cold start	60	80	Α

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
	Full load, 5V output	±3		%
Voltage accuracy	Full load, 12V output	±1.5		%
	Full load, 12V,24V,36V,48V output	±1		%
Line regulation	Full load	±0.5		%
	0-100% load, 5V output	±2		%
Load regulation	0-100% load, 12V output	±1		%
	0-100% load, 12V,24V,36V,48V output	±0.5		%
Ripple & Noise*	5V,12V,15V,24V, output	150		mV p-p
	36V,48V output	200		mV p-p
Haldon Co.	115VAC	≥ 12		ms
Hold up time	230VAC	≥ 16		ms

 $^{^{}m t}$ Ripple and Noise are measured at 20MHz bandwidth with a 47 μ F electrolytic capacitor and a 0.1 μ F ceramic capacitor. Please refer to the application note for specific details.

Isolation Specifications				
Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec, leakage current < 5mA		3000	VAC
Tested Input to GND voltage	60 sec, leakage current < 5mA		2000	VAC
Tested Output to GND voltage	60 sec, leakage current < 5mA		500	VAC
Resistance (I/O, I/O to GND)	500VDC		100	ΜΩ

^{**} Switch the voltage level switch to 230 for 240-373VDC input voltage.





Safety class Class I Switching Frequency 65 Over Current protection Auto recovery ≥ 110 185 % 6 Output voltage turn off, Manual recovery, 5V output 8 N Over voltage protection Output voltage turn off, Manual recovery, 12V output 18 N Over voltage protection Output voltage turn off, Manual recovery, 12V output 33.6 N Output voltage turn off, Manual recovery, 24V output 46.8 N Output voltage turn off, Manual recovery, 36V output 60 N Over temperature protection Output voltage turn off, Manual recovery, 48V output 46.8 N Short circuit protection Output voltage turn off, Manual recovery, 82V output 60 N Short circuit protection Hiccup, Continuous, Auto recovery, Recover time < 5 sec Sec Operating temperature See derating graph -30 to +70 Storage temperature 5 ot 0 +70 Storage temperature See derating graph -30 to +70 Storage temperature 2.5 % Power derating 90 VAC ~ 100 VAC, 60Hz 2.5 %	General Specifications				
Switching Frequency 65 Over Current protection Auto recovery ≥ 110 185 % 6 Output voltage turn off, Manual recovery, 5V output 18 √ Over voltage protection Output voltage turn off, Manual recovery, 12V output 18 √ Output voltage turn off, Manual recovery, 15V output 22 √ Output voltage turn off, Manual recovery, 24V output 33.6 √ Output voltage turn off, Manual recovery, 36V output 46.8 √ Output voltage turn off, Manual recovery, 36V output 60 √ Over temperature protection Output voltage turn off, Manual recovery, Recover time < 5 sec	Parameters	Conditions	Typical	Maximum	Units
Over Current protection Auto recovery ≥ 110 185 % 6 Output voltage turn off, Manual recovery, 5V output 8 1 Output voltage turn off, Manual recovery, 12V output 18 1 Output voltage turn off, Manual recovery, 12V output 22 2 Output voltage turn off, Manual recovery, 24V output 33.6 1 Output voltage turn off, Manual recovery, 36V output 60 1 Over temperature protection Output voltage turn off, Manual recovery, 48V output 60 1 Short circuit protection Hiccup, Continuous, Auto recovery, Recover time < 5 sec	Safety class	Class I			
Over voltage protection Output voltage turn off, Manual recovery, 12V output 18 Over voltage protection Output voltage turn off, Manual recovery, 15V output 22 Output voltage turn off, Manual recovery, 15V output 33.6 Output voltage turn off, Manual recovery, 24V output 33.6 Output voltage turn off, Manual recovery, 24V output 60 Output voltage turn off, Manual recovery, 36V output 60 Over temperature protection Output voltage turn off, Manual recovery, 48V output Short circuit protection Hiccup, Continuous, Auto recovery, Recover time < 5 sec	Switching Frequency		65		KHz
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Over Voltage protection Output voltage turn off, Manual recovery, 24V output 33.6 Nome Output voltage turn off, Manual recovery, 36V output 46.8 Nome Over temperature protection Output voltage turn off, Manual recovery 60 Nome Short circuit protection Hiccup, Continuous, Auto recovery, Recover time < 5 sec		Output voltage turn off, Manual recovery, 12V output		18	VDC
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Over temperature protection Output voltage turn off, Manual recovery Short circuit protection Hiccup, Continuous, Auto recovery, Recover time < 5 sec		Output voltage turn off, Manual recovery, 36V output		46.8	VDC
Short circuit protection Hiccup, Continuous, Auto recovery, Recover time < 5 sec Operating temperature See derating graph -30 to +70 Storage temperature -40 to +85 No-load power consumption 0.75 40 °C to 70 °C, 5V output 1.66 % 50 °C to 70 °C, Others 2.5 % 90VAC ~ 100VAC, 60Hz 2 % 90VAC ~ 100VAC, 50Hz 3.5 % Ambient temperature derating Operating altitude > 2000m 5 °C / Temperature coefficient ±0.03 % Cooling Free air convection Humidity Non-condensing, Storage ≥ 10 95 % Non-condensing, Operating ≥ 20 90 % Case material Metal (1100 Aluminum, SGCC) Weight 520 520 Dimensions (L x W x H) 7.05 x 3.90 x 1.18inch (179.0 x 99.0 x 30.0mm) MTBF > 300 000 hrs (MIL-HDBK -217F, t=+25°C)		Output voltage turn off, Manual recovery, 48V output		60	VDC
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NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at ra	NOTE: All specifications in this data	sheet are measured at an ambient temperature of 25°C, humid	ity<75%, nomina	l input voltage a	nd at rated

Safety Specifications		
Parameters		
Agency approvals	UL 62368-1	
Standards	Design to meet IEC/EN 62368, EN61558, EN	l60335, GB4943
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±6KV / Air ±8KV, Criteria A
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±2KV, Criteria A
	Surge Immunity	IEC 61000-4-5 L-L ±2KV/L-G ±4KV, Criteria A
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 10Vr.m.s, Criteria A

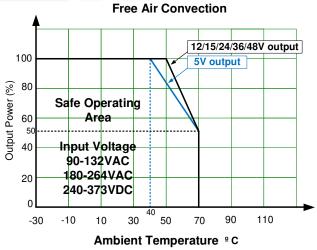
Note: One magnetic bead (nickel-zinc ferrite) should be coupled with the output load line during CE/RE testing.

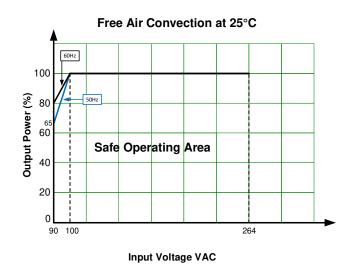
Voltage dips, Short Interruptions Immunity IEC 61000-4-11 0%, 70%, Criteria B



Derating

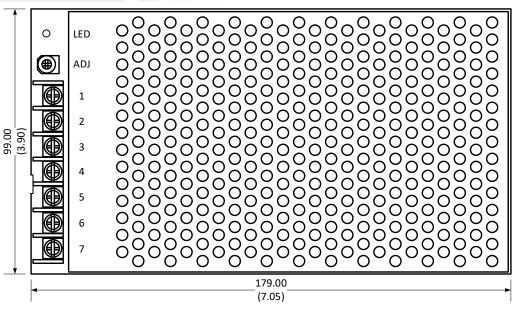




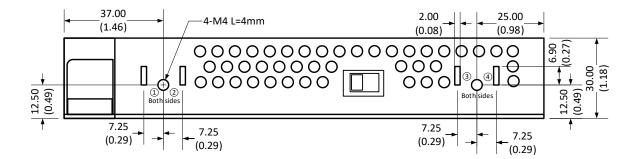


Dimensions

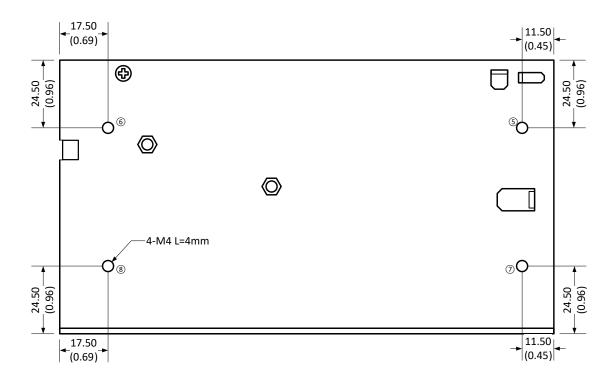




5	Pin Output Specifications		
Pin	Single		
1	+V Output		
2	+V Output		
3	-V Output		
4	-V Output		
5	PE GND		
6	Input (N)		
7	Input (L)		







Note:

Unit: mm(inch)
Wire gauge: 22-12AWG

Screw terminal tightening torque: M3.5, 0.8N-m Mounting screw tightening torque: M4, 0.9N-m

General tolerance: ±1.0(±0.04)

At least one of the 1 - 8 location must be connected to PE

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.