



## AMES600-NZ



The AMES600-NZ is part of Aimtec's AC/DC eagle series which offers great cost effectiveness, improved reliability and performance. It features both a universal AC input as well as a DC input voltage range of 255-370VDC. They offer great EMC performance and meet UL/EN/IEC62368 safety standards.

This new series offers great operating temperatures, from -40°C to 70°C with full power and also features an isolation of 4000VAC for improved reliability and system safety. Furthermore, a high MTBF of over 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.

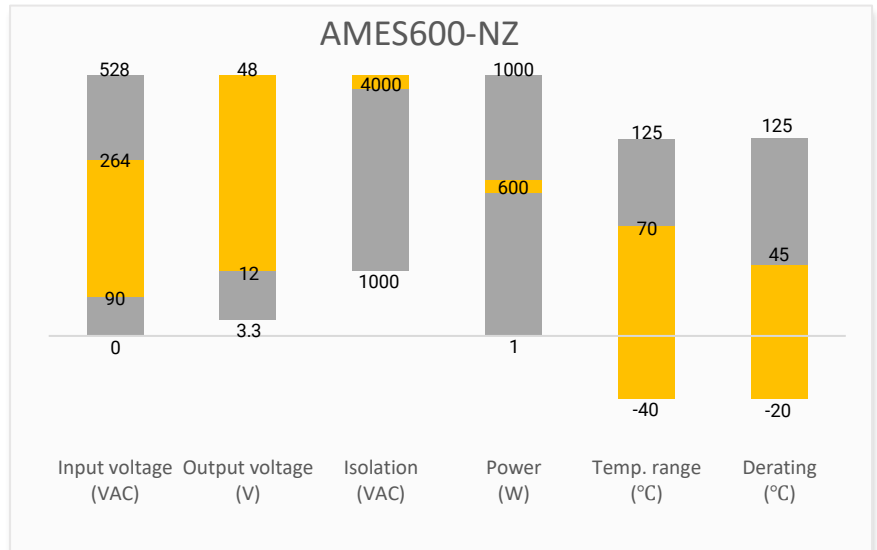
The AMES600-NZ is suitable for grid power, ATM machines, instrumentation, industrial controls, telecommunication and smart home applications.

## Features

- Universal Input: 90 - 132VAC/180 – 264VAC or 255-370VDC
- Operating Temp: -40 °C to +70 °C
- High isolation voltage: Up to 4000VAC
- Over pollution Category III
- Operating Altitude up to 5000m
- Output short circuit, over-current, over-voltage and over temperature protection.
- Low standby power consumption, high efficiency, low ripple, and noise
- Designed to meet UL/EN/IEC62368, EN61558, EN/IEC60335, GB4943



## Summary



## Training



Product Training Video  
(click to open)



Press Release

Coming Soon!

Application Notes

## Applications



Power



Industrial



Telecom



Instrumentation

## Models & Specifications

Single Output								
Model	Input Voltage (VAC/Hz)	Input Voltage (VDC <sub>switch</sub> in position of 230)	Max Output Wattage (W)	Output Voltage (V)	Output Voltage Adjustable Range (V)	Output Current max (A)	Maximum capacitive load (μF)	Efficiency @230VAC (%)
AMES600-12SNZ	90-264/47-63	255-370	600	12	11.4-13.2	50	30000	90
AMES600-15SNZ	90-264/47-63	255-370	600	15	14.25-16.5	40	20000	90
AMES600-24SNZ	90-264/47-63	255-370	600	24	22.8-26.4	25	10000	91
AMES600-27SNZ	90-264/47-63	255-370	599.4	27	25.65-29.7	22.2	8000	91
AMES600-36SNZ	90-264/47-63	255-370	597.6	36	34.2-39.6	16.6	8000	92
AMES600-48SNZ	90-264/47-63	255-370	600	48	45.6-52.8	12.5	6000	92

### Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC	12		A
	230VAC	7.5		A
Inrush current	230VAC, Cold start	60		A
	115VAC, Cold start	35		A
Leakage current	240VAC, 60Hz, Touch Current		0.75	mA
Start-up Delay Time	115VAC/230VAC, Rated Load	1300		ms
Input Fuse	Built-in Fuse	16		A

### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full load, 12V	±1.5		%
	Full load, 15V/24V/27V/36V/48V	±1		%
Line regulation	Rated Load	±0.5		%
Load regulation	Full load, 12V	±1		%
	Full load, 15V/24V/27V/36V/48V	±0.5		%
Ripple & Noise*	12V/15V output		200	mV <sub>p-p</sub>
	24V output		240	mV <sub>p-p</sub>
	27V output		270	mV <sub>p-p</sub>
	36V/48V output		360	mV <sub>p-p</sub>
Hold up time	115VAC	16		ms
	230VAC	20		ms
Minimum load		0		%

\* Ripple and Noise are measured at 20MHz bandwidth with a 47μF electrolytic capacitor and a 0.1μF 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		4000	VAC
Tested Input to GND	60 sec, leakage current < 5mA		2000	VAC
Tested Output to GND	60 sec, leakage current < 5mA		500	VAC
Resistance (I/O, I/O to GND) *	500VDC		>50	MΩ

\* Tested under 25±5°C ambient temperature with relative humidity <95% and no condensation.

General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Over Current protection	230VAC, Rated Load	105%-200%I <sub>out</sub> , constant current limiting mode, which lasts for 1s and then is shut off and recover after a period of time.		
Over voltage protection	Hiccup, Self-Recovery, 12V output		18	VDC
	Hiccup, Self-Recovery, 15V output		21	VDC
	Hiccup, Self-Recovery, 24V output		32.4	VDC
	Hiccup, Self-Recovery, 27V output		36.5	VDC
	Hiccup, Self-Recovery, 36V output		48.6	VDC
	Hiccup, Self-Recovery, 48V output		64.8	VDC
Over temperature protection	Hiccup, Self-Recover			
Short circuit protection	Hiccup or shut off, Auto recovery after the short circuit disappear, Recover time < 10s			
Stand-by power consumption	230VAC at normal temperature	5		W
Operating temperature	See derating graph	-40 to +70		°C
Storage temperature		-40 to +85		°C
Power derating	Operating Temperature Derating	-40°C to -20°C	>3	% / °C
		+45°C to +70°C	>2	
	Input Voltage Derating	90VAC-100VAC	>2	% / VAC
		180VAC-200VAC	>1	
Cooling	Forced air cooling			
Humidity	Non-condensing, Storage	≥ 10	95	% RH
	Non-condensing, Operating	≥ 20	90	% RH
Case material	Metal (Al5052, SGCC)			
Weight		910		g
Dimensions (L x W x H)	8.86 x 4.88 x 1.61 inch (225.00 x 124.00 x 41.00mm)			
MTBF	> 300 000 hrs (MIL-HDBK -217F, t=+25°C)			

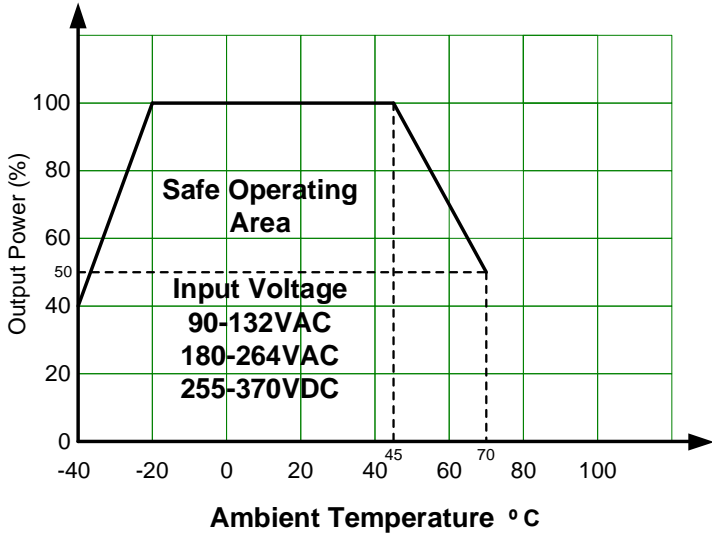
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications		
Parameters	Conditions	Units
Standards	Information technology Equipment	Design to meet IEC/UL 62368-1, EN 61558-1, EN/IEC 60335-1, GB4943.1
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class A
	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 ±4KV, Criteria A
	Surge Immunity(Input Port)	IEC 61000-4-5 L-L ±2KV/L-G ±4KV, Criteria A
	Surge Immunity(Output Port)	IEC 61000-4-5 L-L ±0.5KV/L-G ±1KV, Criteria A
	MS	IEC 61000-4-8 30A/m, Criteria A
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 10Vr.m.s, Criteria A
Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 0%, 70%, Criteria B	

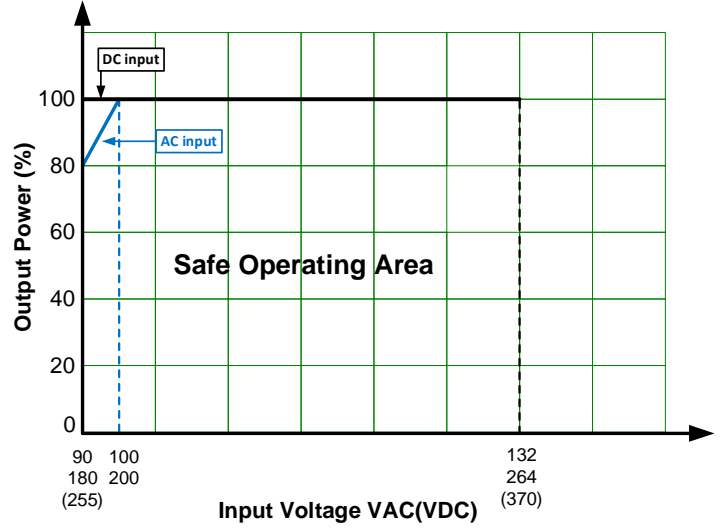
Derating



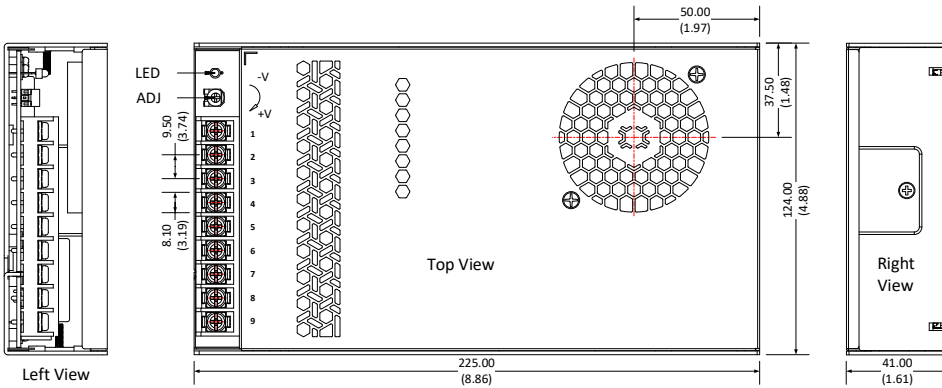
Free Air Convection



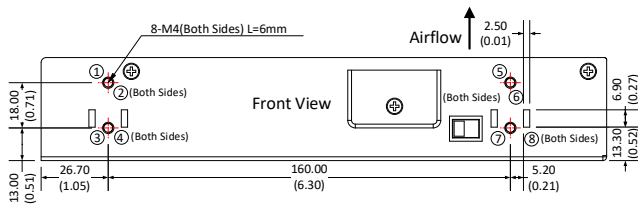
Free Air Convection at 25°C



Dimensions

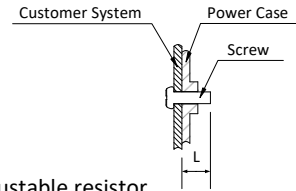
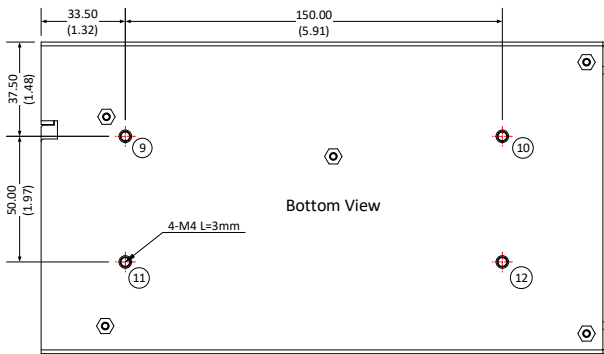


Pin Output Specifications	
Pin	Single
1	+V Output
2	+V Output
3	+V Output
4	-V Output
5	-V Output
6	-V Output
7	GND
8	AC Input (N)
9	AC Input (L)



Switch	AC Input	DC Input
115V	90-132VAC	-----
230V	180-264VAC	255-370VDC

Position	Screw Spec.	L(max)	Torque(max)
① - ⑧	M4	6mm	0.9N.m
⑨ - ⑫	M4	3mm	0.9N.m



Note:  
Unit: mm[inch]  
ADJ: Output adjustable resistor  
Wire range: Input : 14-10AWG  
Output 12V, 15V models : 12-10AWG(3PCS)  
24V, 27V, 36V models : 14-10AWG(≥2PCS)  
48V model : 14-10AWG  
Connector tightening torque: M3.5, 0.8N.m max.  
General tolerances: ±1.00[±0.039]  
At least one of the ①-⑫ 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](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).