AMES100-NZ

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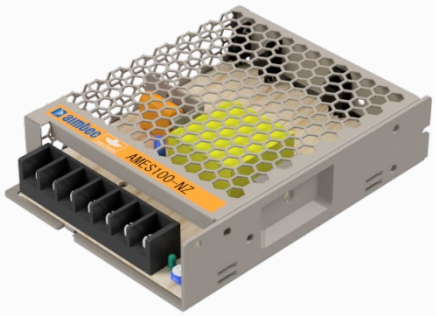


Enclosed

The AMES100-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 also features an isolation of 4000VAC for improved reliability and system safety. Furthermore, a high MTBF of 600,000h, output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series.

The AMES100-NZ is suitable for street lighting controls, grid power, instrumentation, industrial controls, communication, and civil applications.

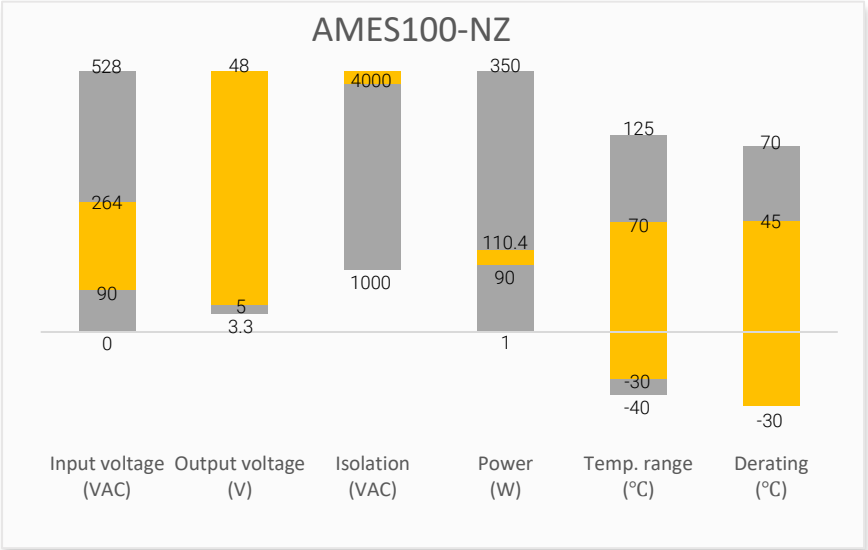
Features

- Universal Input: 90 - 264VAC/127 - 370VDC
- Operating Temp: -30 °C to +70 °C
- High isolation voltage: Up to 4000VAC
- Low ripple & noise, 200mV(p-p) typ.
- Output short circuit, over-current, over-voltage protection
- Regulated Output

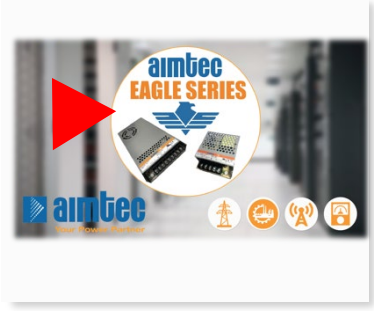
RoHS

3yr Warranty

Summary



Training



Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Power Grid

Industrial

Telecom

Instrumentation

Models & Specifications

Single Output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Max Output Wattage (W)	Output Voltage (V)	Output Voltage Adjustable Range (V)	Output Current max (A)	Maximum capacitive load (µF)	Efficiency @230VAC Typ. (%)
AMES100-5SNZ	90-264/47-63	127-370	90	5	4.5-5.5	18	10000	86
AMES100-12SNZ	90-264/47-63	127-370	102	12	10.2-13.8	8.5	6800	88
AMES100-15SNZ	90-264/47-63	127-370	105	15	13.5-18	7	3300	88
AMES100-24SNZ	90-264/47-63	127-370	108	24	21.6-28.8	4.5	2200	90
AMES100-36SNZ	90-264/47-63	127-370	100.8	36	32.4-39.6	2.8	1000	90
AMES100-48SNZ	90-264/47-63	127-370	110.4	48	43.2-52.8	2.3	470	91

Note: Add suffix “-P” for optional terminal protective cover (ex. AMES75-5SNZ-P is terminal with protective cover version) or suffix “-Q” for conformal coating (ex. AMES100-5SNZ-Q is conformal coating version).

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC	--	1.9	A
	230VAC	--	1.2	A
Inrush current	cold start, 115VAC	30	--	A
	cold start, 230VAC	50	--	A
Leakage current	240VAC	--	0.75	mA

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full load, 5V output	±2	--	%
	Full load, Others	±1	--	%
Line regulation	Full load	±0.5	--	%
Load regulation	0-100% load, 5V output	±1	--	%
	0-100% load, Others	±0.5	--	%
Ripple & Noise*	5V output	--	100	mV p-p
	12V,15V output	--	120	mV p-p
	24V output	--	150	mV p-p
	36V,48V output	--	200	mV p-p
Hold up time	115VAC	10	--	ms
	230VAC	55	--	ms
Start-up delay time	Full load	500	--	ms

* 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.

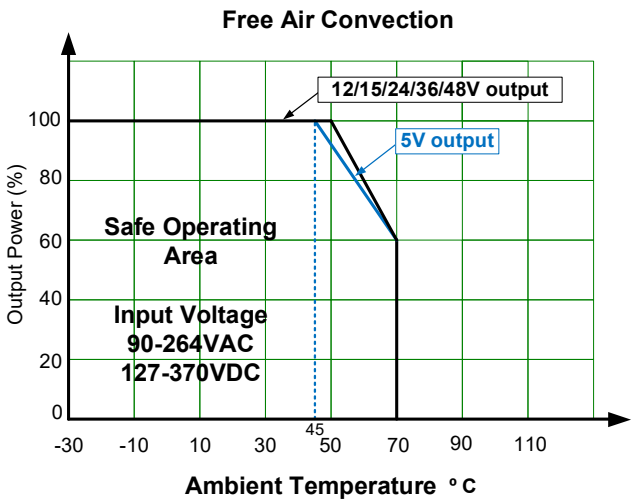
Isolation Specifications

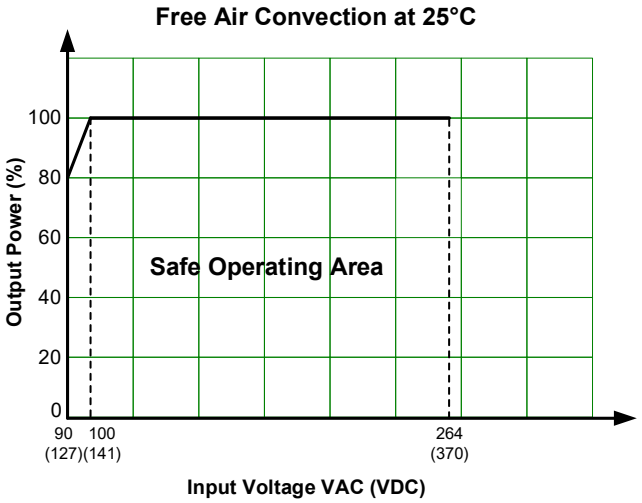
Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec	--	4000	VAC
Tested Input to GND voltage	60 sec	--	2000	VAC
Tested Output to GND voltage	60 sec	--	1250	VAC
Resistance (I/O, I/O to GND)	500VDC	--	100	MΩ

General Specifications				
Parameters	**Conditions**	**Typical**	**Maximum**	**Units**
Over voltage class	Class III			
Switching Frequency		65	--	KHz
Over Current protection	Hiccup, Auto recovery	≥ 110	150	% of Iout
Over voltage protection*	5V output, shut down, Manual recovery	5.7	6.7	VDC
	12V output, shut down, Manual recovery	13.8	16.2	VDC
	15V output, shut down, Manual recovery	18.7	21.7	VDC
	24V output, shut down, Manual recovery	28.8	33.6	VDC
	36V output, shut down, Manual recovery	41.4	48.6	VDC
	48V output, shut down, Manual recovery	55.2	64.8	VDC
Short circuit protection	Hiccup, Continuous, Auto recovery			
Operating temperature	See derating graph	-30 to +70	--	°C
Storage temperature		-40 to +85	--	°C
No-load power consumption		--	0.5	W
Power derating	45 °C to 70 °C, 5V output	1.6	--	% / °C
	50 °C to 70 °C, others	2	--	% / °C
	90VAC - 100VAC	2	--	% / VAC
Ambient temperature derating	Operating altitude > 2000m	5	--	°C / 1000m
Temperature coefficient	0 °C to 50 °C	±0.03	--	% / °C
Cooling	Free air convection			
Humidity	Non-condensing	≥ 10	95	% RH
	Non-condensing, Operating	≥ 20	90	% RH
Vibration	10~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y,Z axes			
Case material	Metal			
Weight		340	--	g
Dimensions (L x W x H)	5.08 x 3.82 x 1.18inch (129.0 x 97.0 x 30.0mm)			
MTBF	> 600 000 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.				

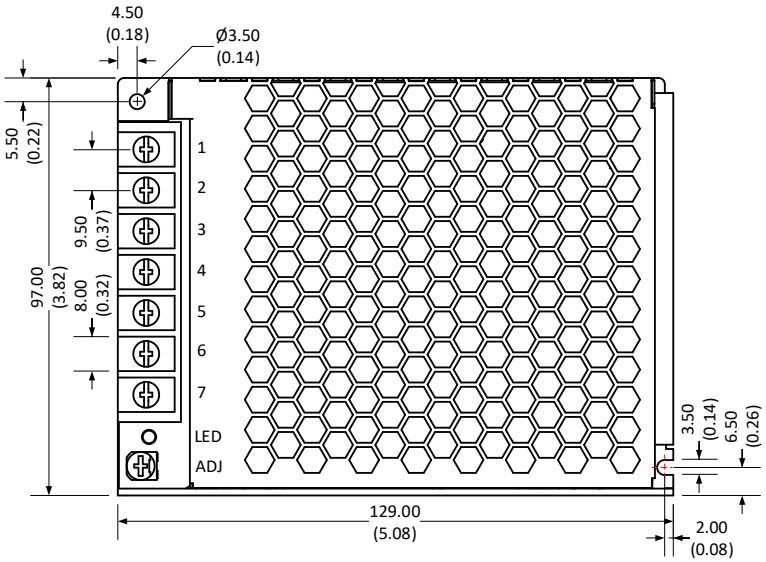
Safety Specifications		
Parameters		
Standards	Design to meet EN/BS EN 61558, EN/BS EN 50178, EN/BS EN 60664-1, EN/BS EN 62477-1, over-voltage class III	
	Information technology Equipment	Design to meet EN/BS EN 62368-1, EN/BS EN 61558-1, EN/BS EN 60335-1
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B
	Harmonic current emission	IEC/EN 61000-3-2, Class A
	Voltage Changes, Voltage Fluctuation and Flicker	EN 61000-3-3, Class A
	Electrostatic Discharge Immunity	IEC 61000-4-2 Criteria A
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 Criteria A
	Surge Immunity	IEC 61000-4-5 Criteria A
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 Criteria A
	Power-frequency Magnetic Field	IEC 61000-4-8 Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 Criteria A

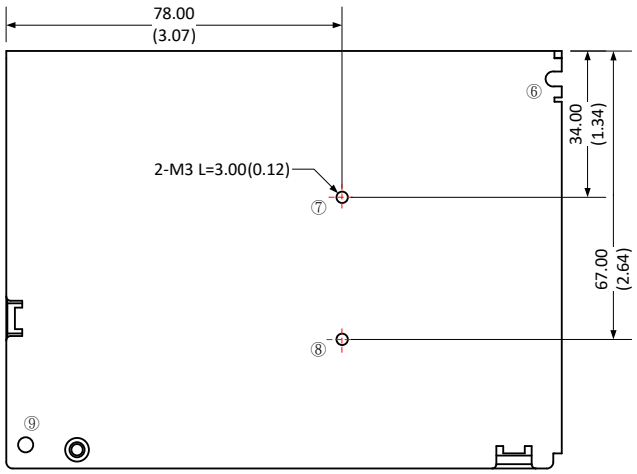
Derating

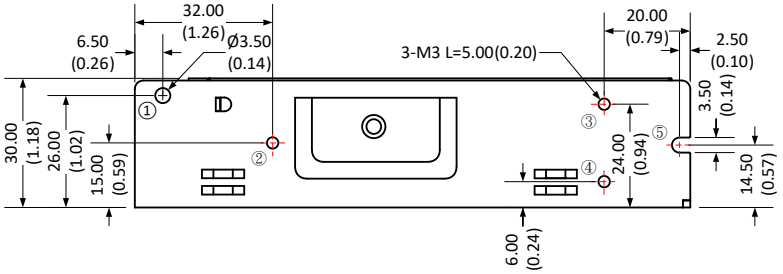




Dimensions







Note:
Unit: mm(inch)
Wire gauge: 22-12AWG
Screw terminal tightening torque: M3.5, 0.58-m
Mounting screw tightening torque: M3, 0.4N-m
General tolerance: ±1.0(0.04)
At least one of the ① - ⑨ location must be connected to PE

Single Pin Output Specifications	
Pin	**Function**
1	Input (L)
2	Input (N)
3	PE GND
4	-V Output
5	-V Output
6	+V Output
7	+V Output
ADJ	Vout voltage adj knob