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AMES150-NZ



The new AMES150-NZ is a brand-new 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 85-264VAC and an output voltage range from 12-48V, 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 higher 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.

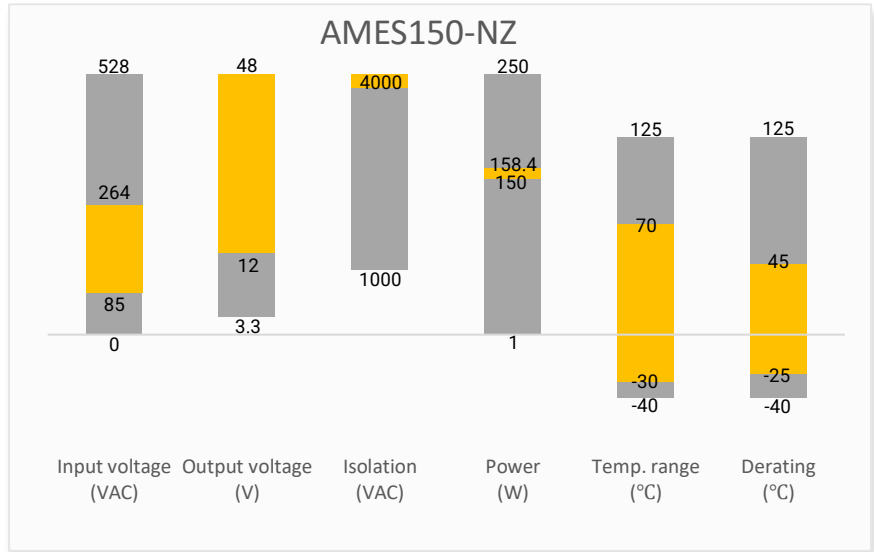
The AMES150-NZ is perfect for street lighting controls, grid power, LED, instrumentation, industrial controls, communication, and civil applications.

Features



- Universal Input: 85 - 264VAC/120 - 373VDC
- Operating Temp: -30 °C to +70 °C
- High isolation voltage: Up to 4000VAC
- Low ripple & noise, 200mV(p-p) max.
- Output short circuit, over-current, over-voltage and over temperature protection
- Regulated Output
- Optional conformal coating
- Surge immunity: 300VAC for 5s

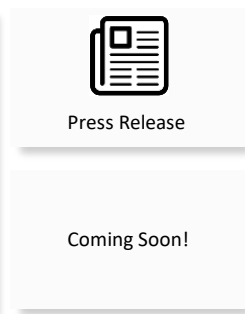
Summary



Training



Product Training Video
(click to open)



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 (μ F)	Efficiency @230VAC (%)
AMES150-12SNZ	85-264/47-63	120-373	150	12	10.2-13.8	12.5	10000	86
AMES150-15SNZ	85-264/47-63	120-373	150	15	13.5 -18	10	6000	87
AMES150-24SNZ	85-264/47-63	120-373	156	24	21.6 - 28.8	6.5	2400	88
AMES150-36SNZ	85-264/47-63	120-373	154.8	36	32.4 - 39.6	4.3	1200	88
AMES150-48SNZ	85-264/47-63	120-373	158.4	48	43.2 -52.8	3.3	600	89

Add suffix "-P" for optional terminal protective cover (ex. AMES150-12SNZ-P is terminal with protective cover version) or suffix "-Q" for optional conformal coating (ex. AMES150-12SNZ-Q is conformal coating version).

Input Specifications				
Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC		4	A
	230VAC		2	A
Inrush current	115VAC, Cold start	30		A
	230VAC, Cold start	60		A
Leakage current	240VAC		0.75	mA

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full load	± 1		%
Line regulation	Full load	± 0.5		%
Load regulation	0-100% load	± 0.5		%
Ripple & Noise*	12V,15V output		150	mV p-p
	24V,36V,48V output		200	mV p-p
Hold up time	115VAC	≥ 8		ms
	230VAC	≥ 16		ms

* 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 < 10mA		4000	VAC
Tested Input to GND voltage	60 sec, leakage current < 10mA		2000	VAC
Tested Output to GND voltage	60 sec, leakage current < 10mA		1250	VAC
Resistance (I/O, I/O to GND)	500VDC		50	M Ω

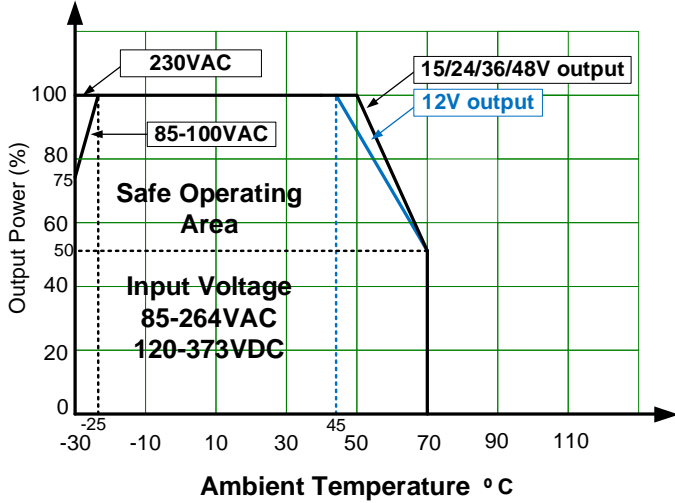
General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Safety class	Class I			
Switching Frequency		65		KHz
Over Current protection	Auto recovery	≥ 110	150	% of Iout
Over voltage protection	Output voltage turn off, Manual recovery, 12V output		16.2	VDC
	Output voltage turn off, Manual recovery, 15V output		21.75	VDC
	Output voltage turn off, Manual recovery, 24V output		33.6	VDC
	Output voltage turn off, Manual recovery, 36V output		48.6	VDC
	Output voltage turn off, Manual recovery, 48V output		60	VDC
Over temperature protection	Output voltage turn off, Auto recovery			
Short circuit protection	Hiccup, Continuous, Auto recovery, Recover time < 5 sec			
Operating temperature	See derating graph	-30 to +70		°C
Storage temperature		-40 to +85		°C
No-load power consumption			0.5	W
Power derating	-30 °C to -25 °C, 85VAC ~ 100VAC	5		% / °C
	45 °C to 70 °C, 12V output	2		% / °C
	50 °C to 70 °C, 15V,24V,36V,48V output	2.5		% / °C
	85VAC ~ 100VAC	1.33		% / VAC
Ambient temperature derating	Operating altitude > 2000m	5		°C / 1000m
Temperature coefficient		±0.03		% / °C
Cooling	Free air convection			
Humidity	Non-condensing, Storage	≥ 10	95	% RH
	Non-condensing, Operating	≥ 20	90	% RH
Case material	Metal (1100 Aluminum, SGCC)			
Weight		410		g
Dimensions (L x W x H)	6.26 x 3.82 x 1.18inch (159.0 x 97.0 x 30.0mm)			
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		
Agency approval	EN/UL62368-1	
Standards	Design to meet EN61558, over-voltage class III	
	Information technology Equipment	Design to meet IEC/EN/UL 62368, EN60335, GB4943
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B
	Harmonic current	IEC 61000-3-2, CLASS A (≤80% load)
	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	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
	Voltage dips, Short interruptions Immunity	IEC 61000-4-11 0%, 70%, Criteria B

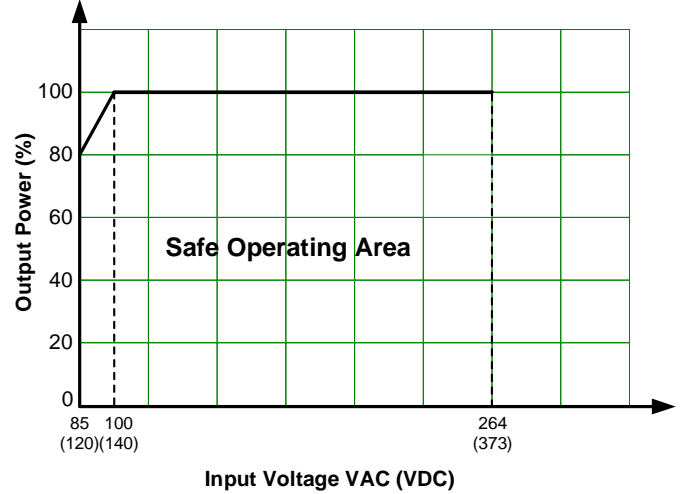
Derating



Free Air Convection



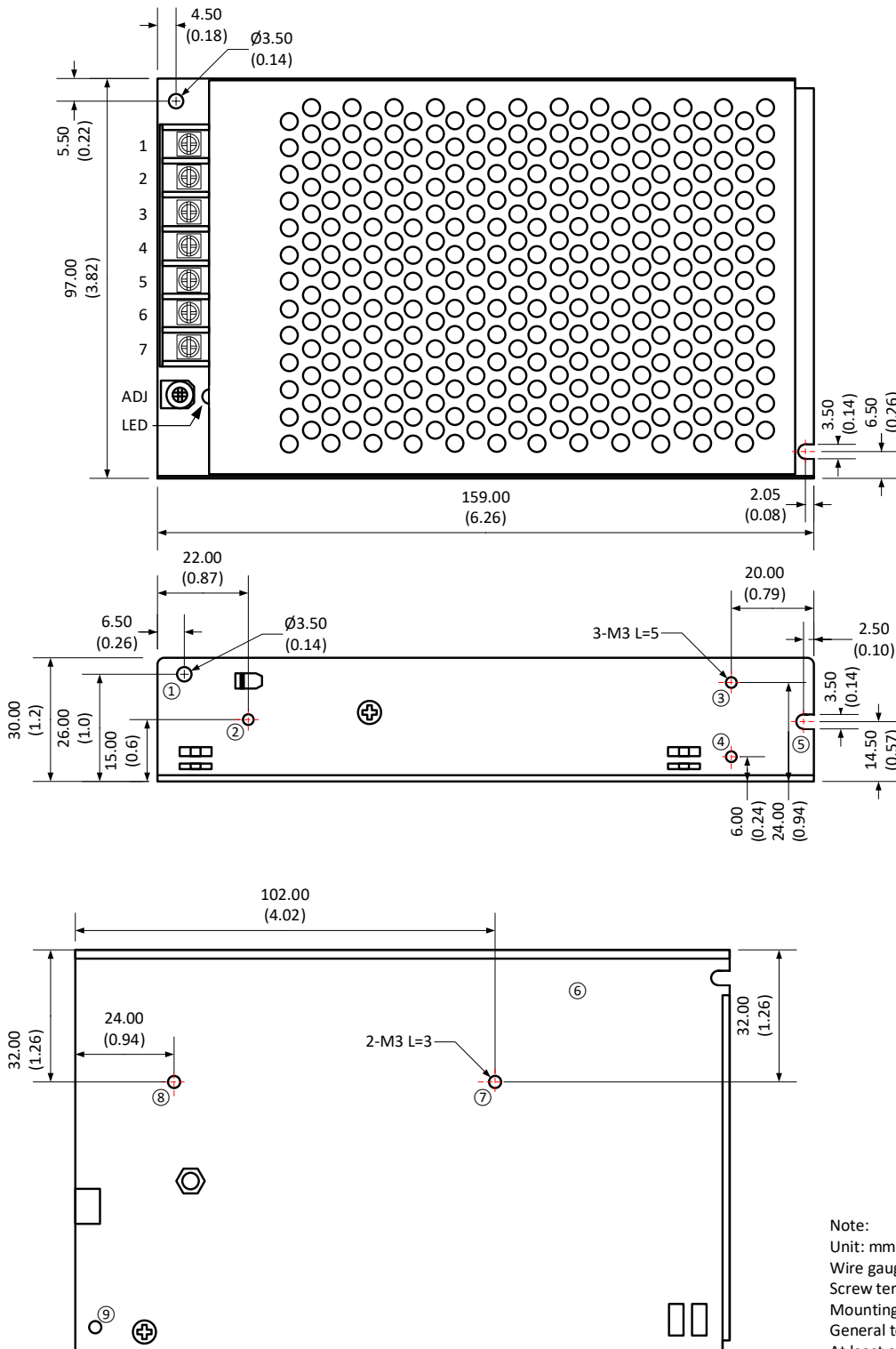
Free Air Convection at 25°C



Dimensions



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



Note:
 Unit: mm(inch)
 Wire gauge: 22-14AWG
 Screw terminal tightening torque: M3.5, 0.8N-m
 Mounting screw tightening torque: M3, 0.4N-m
 General tolerance: $\pm 1.0(0.04)$
 At least one of the ① - ⑨ 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.