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AMES350-NZ

Enclosed

The AMES350-NZ is an AC/DC converter that offers great cost effectiveness due to material normalization and production automation also leading to improved reliability and performance. It features both a universal AC input of 90-132VAC / 180-264VAC as well as a DC input voltage range of 240-370VDC. They offer great EMC performance and meet EN/IEC62368 safety standards.

This series offers great operating temperatures, from -30°C to 70°C and also features an isolation of 4000VAC for improved reliability and system safety. Furthermore, a high MTBF of 2 346.6khrs, 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 AMES350-NZ is suitable for street lighting controls, grid power, instrumentation, industrial controls, communication, and civil applications.

Features

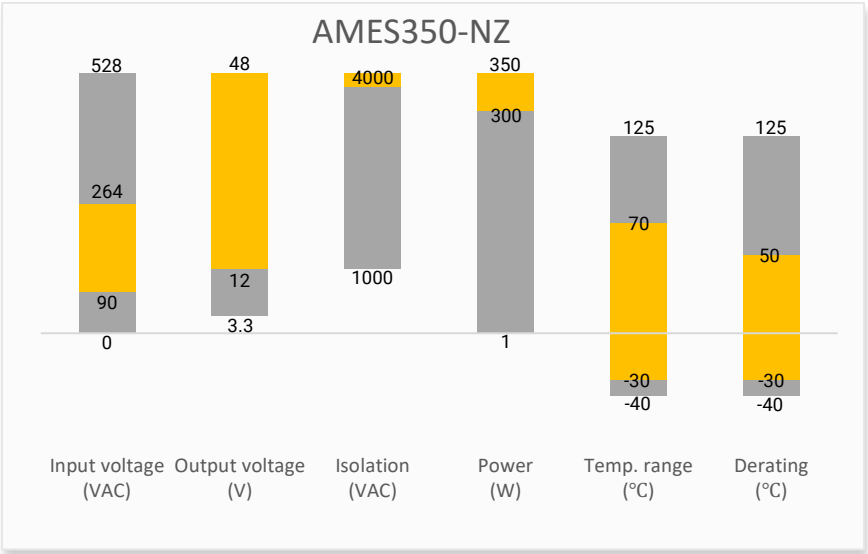
- Universal Input: 90 – 132VAC/180 – 264VAC or 240-370VDC
- Operating Temp: -30 °C to +70 °C
- High isolation voltage: Up to 4000VAC
- Low ripple & noise, 200mV(p-p) typ.
- Output short circuit, over-current, over-voltage and over-temperature protection
- Regulated Output
- Surge immunity: 300VAC for 5s

3yr Warranty

RoHS

c UL us

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/VAC/Hz)*	Input Voltage (VDC)**	Max Output Wattage (W)	Output Voltage (V)	Output Voltage Adjustable Range (V)	Output Current (A)	Efficiency @230VAC (%)
AMES350-12SNZ-P	90-132/180-264/47-63	240-370	348	12	10.2-13.8	29	85
AMES350-15SNZ-P	90-132/180-264/47-63	240-370	348	15	13.5 -18	23.2	86
AMES350-24SNZ-P	90-132/180-264/47-63	240-370	350.4	24	21.6 - 28.8	14.6	88
AMES350-36SNZ-P	90-132/180-264/47-63	240-370	349.2	36	32.4 - 39.6	9.7	88.5
AMES350-48SNZ-P	90-132/180-264/47-63	240-370	350.4	48	43.2 -52.8	7.3	89
AMES350-48SNZ-PC*	90-132/180-264/47-63	240-370	350.4	48	43.2 -52.8	7.3	89

Note: The "-P" suffix indicates a terminal protective cover (ex. AMES350-12SNZ-P). For optional conformal coating, add "Q" after the "-P" (ex. AMES350-12SNZ-PQ is conformal coated version with terminal protective cover).
* For AMES350-48SNZ-PC the voltage switch will be set to 115VAC
** Switch needs to be set to 230V.

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC	6.8		A
	230VAC	3.4		A
Inrush current	115VAC, Cold start	60		A
	230VAC, Cold start	60		A
Leakage	240VAC		2	mA

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full load, 12V output	±1.5		%
	Full load, 15V,24V,36V,48V output	±1		%
Line regulation	Full load	±0.5		%
Load regulation	0-100% load, 12V output	±1		%
	0-100% load, 15V,24V,36V,48V output	±0.5		%
Ripple & Noise*	12V,15V,24V, output	150		mV p-p
	36V,48V output	200		mV p-p
Hold up time	115VAC	12		ms
	230VAC	16		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, leakage current < 5mA		4000	VAC
Tested Input to GND voltage	60 sec, leakage current < 3mA		2000	VAC
Tested Output to GND voltage	60 sec, leakage current < 3mA		500	VAC
Resistance (I/O, I/O to GND)	500VDC		100	MΩ

General Specifications

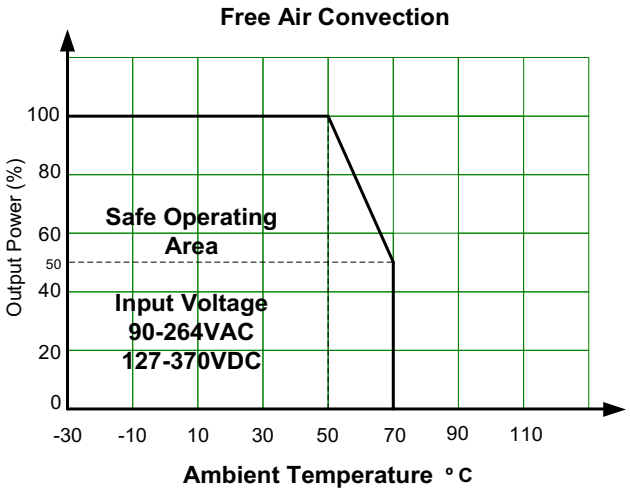
Parameters	Conditions	Typical	Maximum	Units

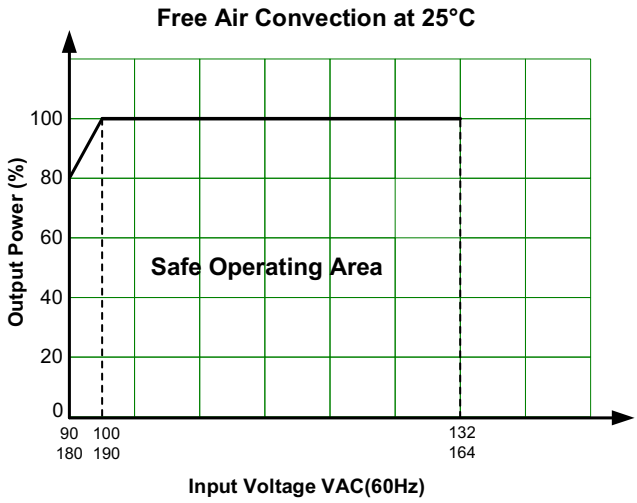
Over voltage category	OVC III			
Over Current protection	Hiccup, Auto recovery	≥ 110	140	% of Iout
Over voltage protection	Hiccup, Auto recovery, 12V output	≥ 13.8	16.2	VDC
	Hiccup, Auto recovery, 15V output	≥ 18	21	VDC
	Hiccup, Auto recovery, 24V output	≥ 28.8	33.6	VDC
	Hiccup, Auto recovery, 36V output	≥ 41.4	46.8	VDC
	Hiccup, Auto recovery, 48V output	≥ 55.2	64.8	VDC
Over temperature protection	Hiccup, Auto recovery			
Short circuit protection	Hiccup, Continuous, Auto recovery			
Operating temperature	See derating graph	-30 to +70		°C
Storage temperature		-40 to +85		°C
Power derating	50 °C to 70 °C	2.5		% / °C
	90VAC ~ 100VAC	2		% / VAC
Temperature coefficient		±0.03		% / °C
Cooling	Forced air cooling			
Humidity	Non-condensing, Storage	≥ 10	95	% RH
	Non-condensing, Operating	≥ 20	90	% RH
Case material	Metal			
Weight		660		g
Dimensions (L x W x H)	8.46 x 4.53 x 1.18inch (215.0 x 115.0 x 30.0mm)			
MTBF	> 2 346 khrs min. Telcordia SR-332 (Bellcore)			
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

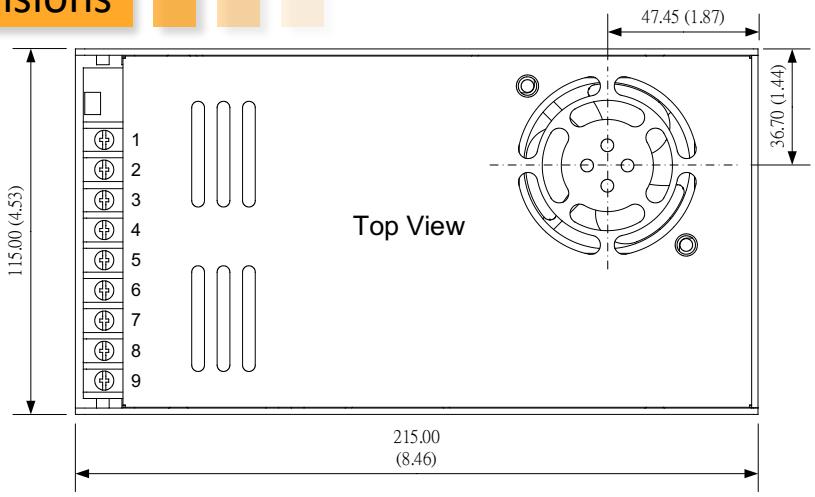
Parameters		
Agency Approvals	UL 62368-1	
Standards	Information technology Equipment	Design to meet BS EN/EN62368-1, BS EN/EN61558-1
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B
	Electrostatic Discharge Immunity	IEC 61000-4-2
	RF, Electromagnetic Field Immunity	IEC 61000-4-3
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4
	Surge Immunity	IEC 61000-4-5
	RF, Conducted Disturbance Immunity	IEC 61000-4-6
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11

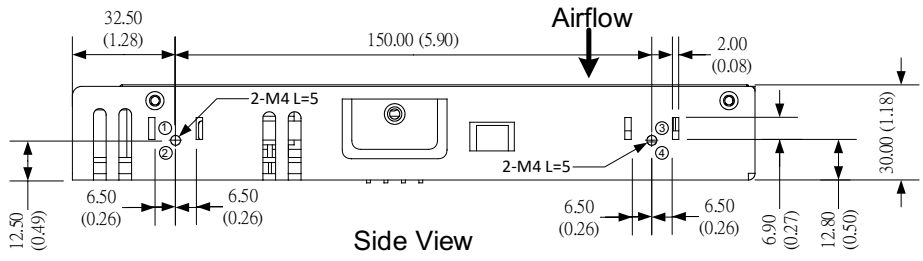
Derating

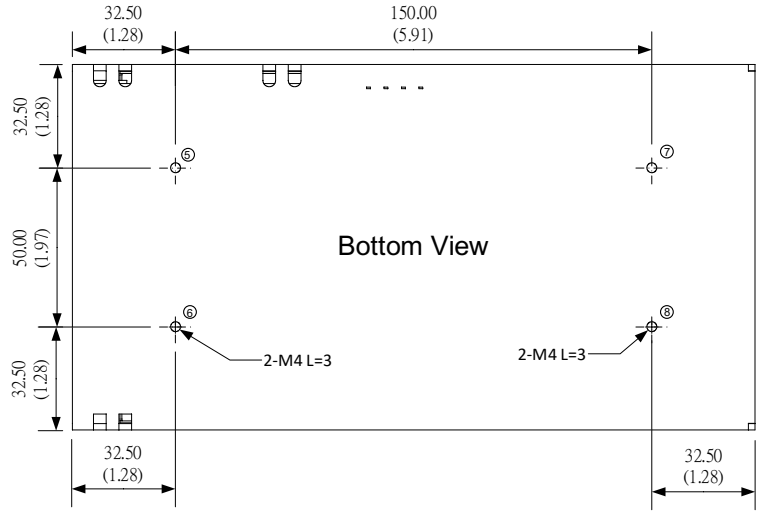

Free Air Convection
Output Power (%)
100
80
60
50
40
20
0
Safe Operating
Area
Input Voltage
90-264VAC
127-370VDC
-30
-10
10
30
50
70
90
110
Ambient Temperature °C


Free Air Convection at 25°C
Output Power (%)
100
80
60
40
20
0
Safe Operating Area
90
180
100
190
132
164
Input Voltage VAC(60Hz)

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)

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.