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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 -25°C to 70°C and also features an isolation of 3000VAC for improved reliability and system safety. Furthermore, a high MTBF of 3 540khrs, 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

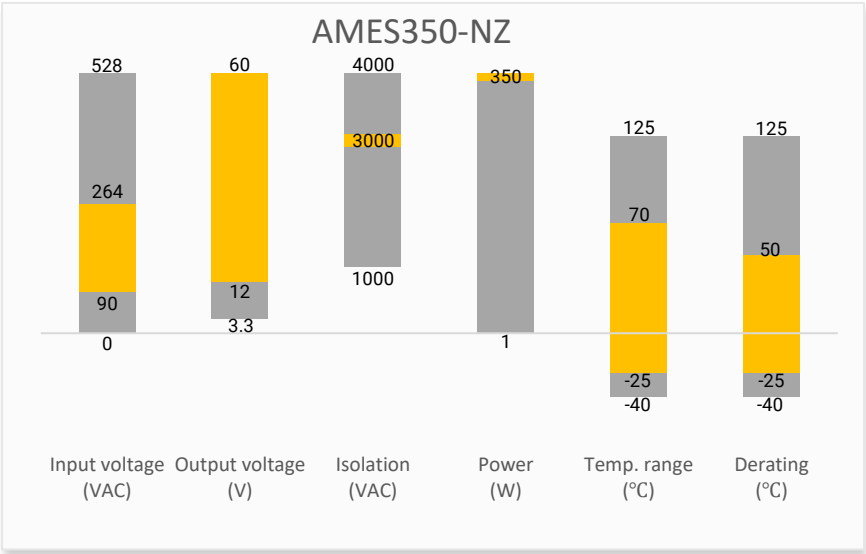
- Universal Input: 90 – 132VAC/180 – 264VAC or 240-370VDC
- Operating Temp: -25 °C to +70 °C
- High isolation voltage: Up to 3000VAC
- Low ripple & noise, 200mV(p-p) typ.
- Output short circuit, over-current, over-voltage and over-temperature protection
- Regulated Output
- Surge immunity: 300VAC for 5s

3yr Warranty

RoHS

cULus

## Summary




## Training




Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

## Applications

Power Grid

Industrial

Telecom

Instrumentation



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# 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 | 345 | 15 | 13.5 -18 | 23 | 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 | 88.5 |
| AMES350-48SNZ-PC* | 90-132/180-264/47-63 | 240-370 | 350.4 | 48 | 43.2 -52.8 | 7.3 | 88.5 |
| AMES350-60SNZ-P | 90-132/180-264/47-63 | 240-370 | 350.4 | 60 | 54 - 66 | 5.84 | 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 | 10 | | A |
| | 230VAC | 5.3 | | A |
| Inrush current | 115VAC, Cold start | 75 | | A |
| | 230VAC, Cold start | 80 | | 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, 60V output | ±1 | | % |
| Line regulation | Full load | ±0.5 | | % |
| Load regulation | 0-100% load | ±1 | | % |
| Ripple & Noise* | 12V,15V,24V output | 150 | | mV p-p |
| | 36V,48V, 60V 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 | | 3000 | 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 |


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## General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---|---|---|---|---|
| Over voltage category | OVC II | | | |
| Over Current protection | Hiccup, Auto recovery, 12V/15V/24V/36V output | ≥ 110 | 150 | % of Iout |
| | Shut down and latch off, Manual recovery, 48V/60V output | ≥ 110 | 150 | % of Iout |
| Over voltage protection | Hiccup, Auto recovery, 12V/15V/24V/36V output | ≥ 115 | 135 | % of Vout |
| | Shut down and latch off, Manual recovery, 48V/60V output | ≥ 115 | 135 | % of Vout |
| Over temperature protection | Hiccup, Auto recovery, 12V/15V/24V/36V output | | | |
| | Shut down and latch off, Manual recovery, 48V/60V output | | | |
| Short circuit protection | Hiccup, Continuous, Auto recovery | | | |
| Operating temperature | See derating graph | -25 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 | 0~50°C | ±0.03 | | % / °C |
| Cooling | Forced air cooling | | | |
| Humidity | Non-condensing, Storage | ≥ 10 | 95 | % RH |
| | Non-condensing, Operating | ≥ 20 | 90 | % RH |
| Case material | Metal | | | |
| Weight | | 680 | | g |
| Dimensions (L x W x H) | 8.46 x 4.53 x 1.18inch (215.0 x 115.0 x 30.0mm) | | | |
| MTBF | >3 540khrs min. Telcordia SR-332 (Bellcore) | | | |

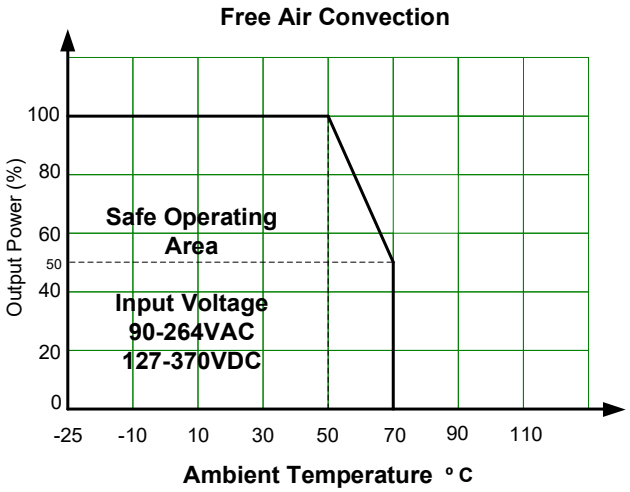
**NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.**

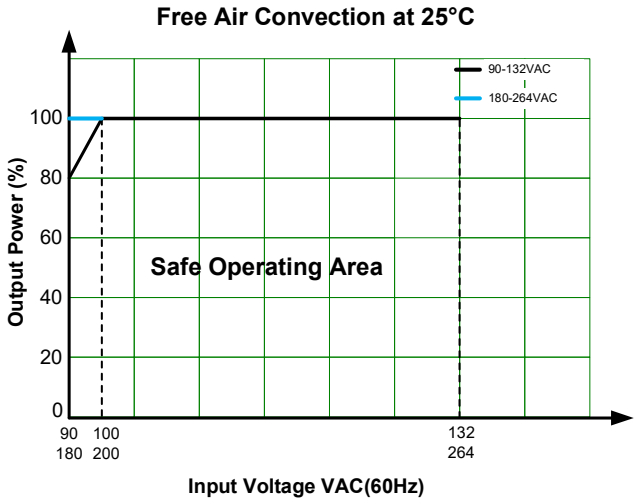
## Safety Specifications

| Parameters | | |
|---|---|---|
| Agency Approvals | UL 62368-1 | |
| Standards | Information technology Equipment | Designed to meet EN62368-1, EN60335-1, EN61558-1 |
| | EMC - Conducted and radiated emission | CISPR32 / EN55032, class A<br>EN55035<br>EN6100-3-2<br>EN61000-3-3 |
| | Electrostatic Discharge Immunity | EN 61000-4-2 |
| | RF, Electromagnetic Field Immunity | EN 61000-4-3 |
| | Electrical Fast Transient/Burst Immunity | EN 61000-4-4 |
| | Surge Immunity | EN 61000-4-5 |
| | RF, Conducted Disturbance Immunity | EN 61000-4-6 |
| | Power Frequency Magnetic Field Immunity | EN 61000-4-8 |
| | Voltage dips, Short Interruptions Immunity | EN 61000-4-11 |


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## Derating

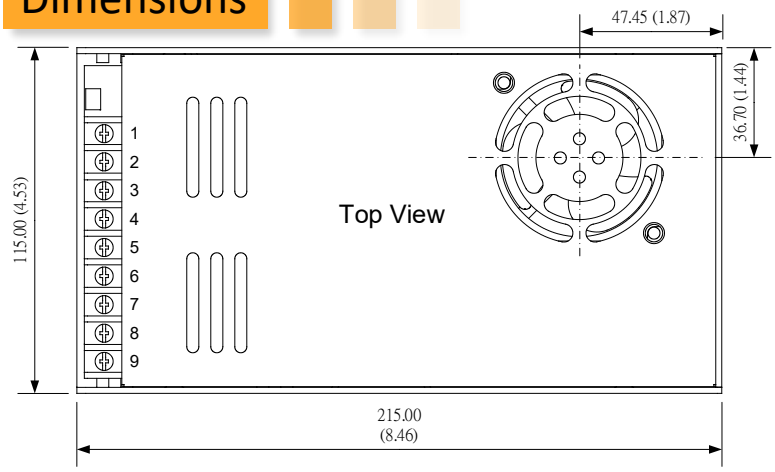


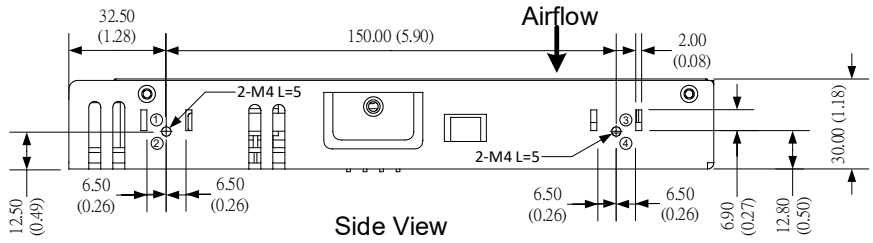


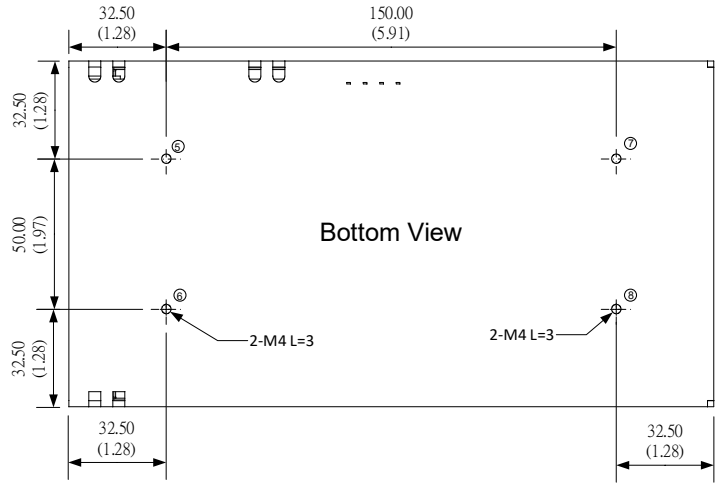
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# Dimensions




| 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.


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