

## AMESP200-277NZ

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Enclosed

The AMESP200-277NZ 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 90-305VAC and an output voltage range from 5-48V, this series will offer many benefits to your new system design.

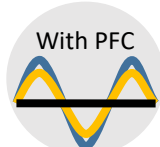
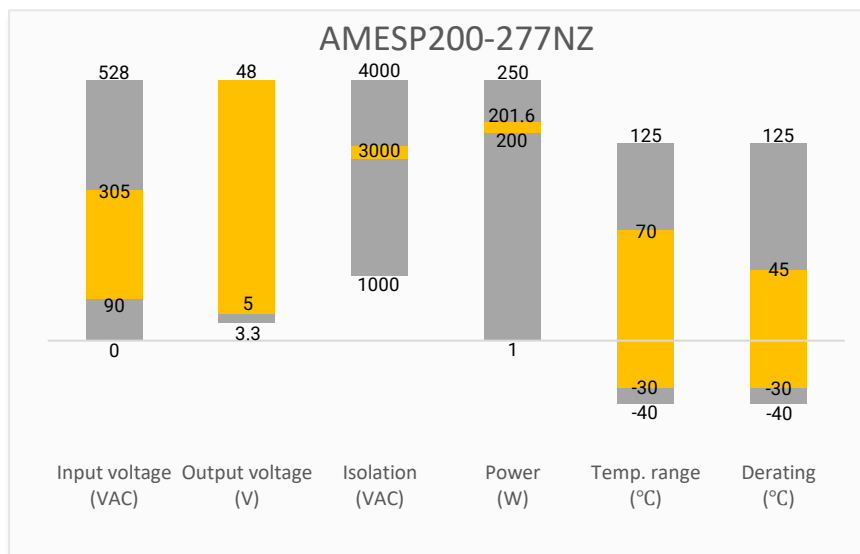
This new series offers great operating temperatures, from -30°C to 45°C with full power and also features an isolation of 3000VAC for improved reliability and system safety. Furthermore, a high MTBF of >1,766,000h, output short circuit protection (OSCP), output over-current protection (OCP), output over-voltage protection (OVP) and over-temperature protection (OTP) come standard with the series.

The AMESP200-277NZ is suitable for street lighting controls, grid power, instrumentation, industrial controls, communication, and civil applications.

## Features

- Universal Input: 90 - 305VAC/127 - 430VDC
- Operating Temp: -30 °C to +70 °C
- PFC > 0.95
- High isolation voltage: Up to 3000VAC
- Low ripple & noise, 240mV(p-p) typ.
- Output short circuit, over-current, over-voltage and over temperature protection
- Regulated Output
- Optional conformal coating
- Active power factor correction

## 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)	Efficiency @230VAC (%)
AMESP200-5S277NZ-P	90-305/47-63	127-430	200	5	4.5-5.5	40	83
AMESP200-12S277NZ-P	90-305/47-63	127-430	200.4	12	10-13.2	16.7	84
AMESP200-15S277NZ-P	90-305/47-63	127-430	201	15	13.5-18	13.4	85
AMESP200-24S277NZ-P	90-305/47-63	127-430	201.6	24	20-26.4	8.4	87
AMESP200-48S277NZ-P	90-305/47-63	127-430	201.6	48	41-56	4.2	88

Note: The "-P" suffix indicates a terminal protective cover (ex. AMESP200-5S277NZ-P). For optional conformal coating, add "Q" after the "-P" (ex. AMESP200-5S277NZ-PQ is conformal coated version with terminal protective cover).

### Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC	2.5		A
	230VAC	1.3		A
Inrush current	115VAC, cold start	20		A
	230VAC, cold start	40		A
Power factor	115VAC, Full load	0.98		
	230VAC, Full load	0.95		
Leakage current	240VAC		1	mA

### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full load	±2		%
Line regulation	Full load	±0.5		%
Load regulation	230VAC, 0-100% load, 5V, 12V, 15V output	±1		%
	230VAC, 0-100% load, 24V, 48V output	±0.5		%
Ripple & Noise*	5V, 12V, 15V, 24V output	150		mV p-p
	48V output	240		mV p-p
Hold up time	115VAC, 230VAC, full load	8		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 not for specific details.

### Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		3000	VAC
Tested Input to GND voltage	60 sec		2000	VAC
Tested Output to GND voltage	60 sec		500	VAC
Resistance (I/O, I/O to GND)*	500VDC		100	MΩ

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

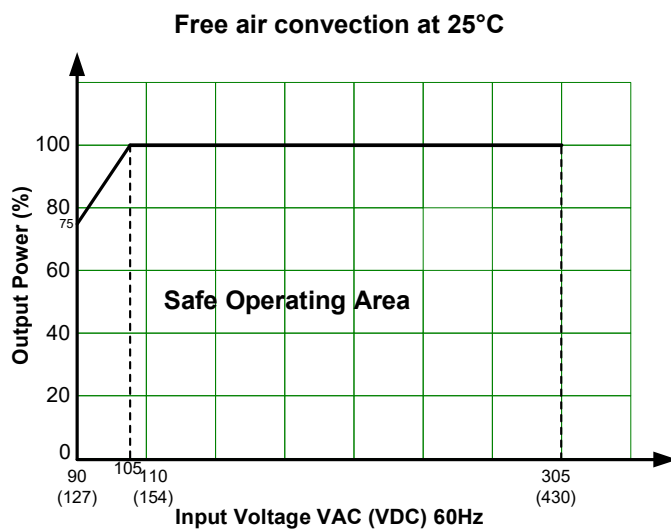
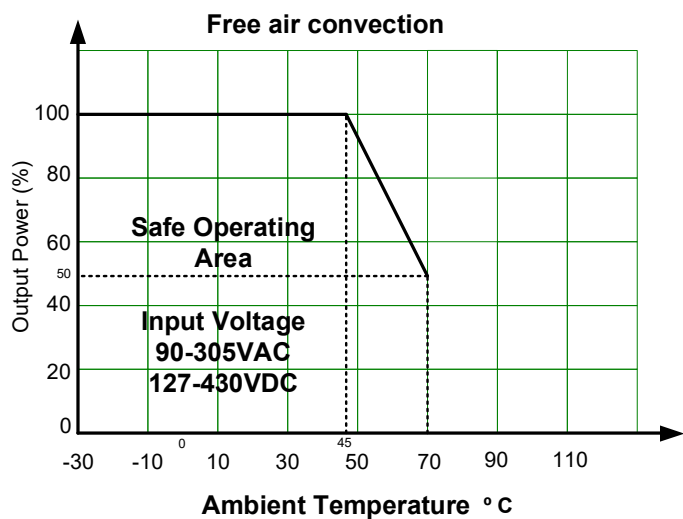
## General Specifications

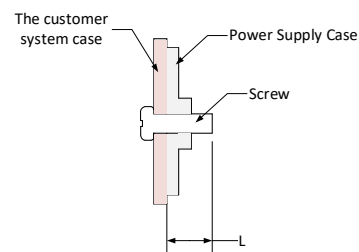
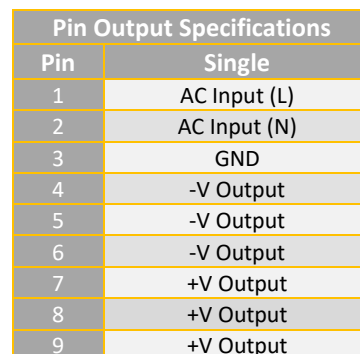
Parameters	Conditions	Typical	Maximum	Units
Over Current protection	Hiccup, Auto recovery	≥ 105	135	% of Iout
Over voltage protection	5V output, shut down, Manual recovery	≥5.75	7	VDC
	12V output, shut down, Manual recovery	≥13.8	16.2	VDC
	15V output, shut down, Manual recovery	≥18.8	21.8	VDC
	24V output, shut down, Manual recovery	≥27.6	32.4	VDC
	48V output, shut down, Manual recovery	≥58.4	68	VDC
Over temperature protection	Shut down, 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	45 °C to 70 °C	2		% / °C
	90VAC to 105VAC, 60Hz	1.66		% / 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
Vibration	10~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes			
Case material	Metal			
Weight		720		g
Dimensions (L x W x H)		8.46 x 4.53 x 1.18inch (215.0 x 115.0 x 30.0mm)		
MTBF	1 766 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		
Standards	Information technology Equipment	Design to meet BS EN/EN62368-1
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B
	Harmonic current	IEC 61000-3-2, class A
	Voltage Flicker	IEC 61000-3-3
	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
	Power-frequency Magnetic Field	IEC 61000-4-8
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11
Note: One magnetic bead (nickel-zinc ferrite) should be coupled with the output load line during CE/RE testing.		
Note 2: All the EMC items are tested on a 450mm x 450mm x 3mm (L x W x H) metal plate as the enclosed power supply is considered as component. The electromagnetic compatibility of the final system should be re-evaluated.		

## Derating





General tolerance:  $\pm 1.0(\pm 0.04)$

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