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AMESP350U-277JZ

Enclosed

The AMESP350U-277JZ series is an efficient, enclosed, fan less, and semi-potted 350W AC-DC power supply module. Offering a wide commercial input voltage range of 85-305VAC, output voltage ranges from 5-48V, low power consumption, high efficiency, high reliability, and safer isolation.

This new series offers great operating temperatures, from -40°C to +85°C with full power up to 50°C and features an isolation of 4000VAC with improved reliability and system safety. Additionally, it has operating altitude of 5000m. Furthermore, a high MTBF of 300,000h, output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series.

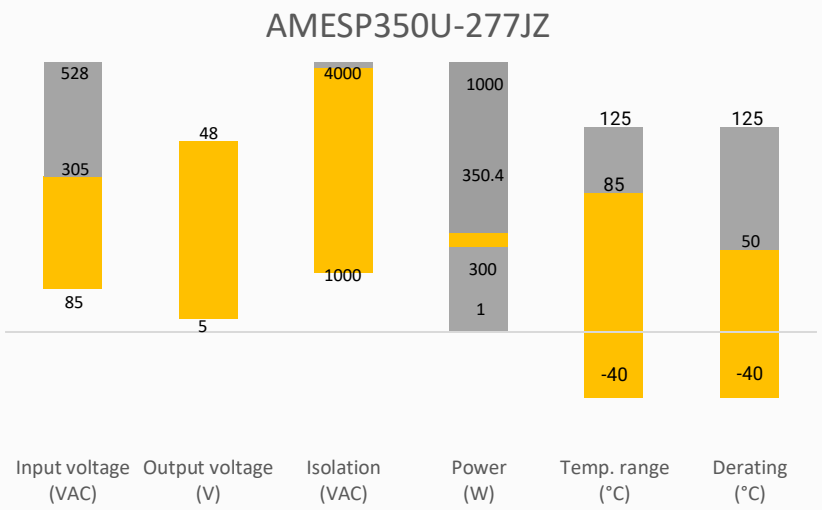
The AMESP350U-277JZ is great for street lighting controls, grid power, instrumentation, industrial controls, communication, and civil applications.

Features

- Universal Input: 85 - 305VAC/120 - 430VDC
- Operating Temp: -40°C to +85°C
- High isolation voltage: 4000VAC
- Active PFC
- Output short circuit, over-current, over-voltage protection.
- Efficiency up to 94%
- 150% peak load output for 1 second
- Operating altitude up to 5000m
- Designed to meet : UL62368, EN60335, EN61558

RoHS 3yr Warranty CE

Summary



Training

Product Training Video (Coming soon)

Press Release

Coming Soon!

Application Notes

Applications

Power Grid

Industrial

Telecom

Models & Specifications

Single Output								
Model	Input Voltage (VAC)	Input Voltage (VDC)	Max Output wattage (W)	Nominal Output Voltage/Current (Vo/Io)	Output Voltage Adjustable Range(V)	Max Capacitive Load at Room temp(μF)	Max Capacitive Load at Low temp(μF)	Efficiency @ 230VAC Typ. (%)
AMESP350U-5S277JZ	85-305	120-430	300	5/60	4.5-5.5	10000	6000	90
AMESP350U-12S277JZ	85-305	120-430	350.4	12/29.2	11.4-12.6	8000	4000	92
AMESP350U-24S277JZ	85-305	120-430	350.4	24/14.6	22.8-25.2	5000	3000	94
AMESP350U-36S277JZ	85-305	120-430	351	36/9.75	34.2-37.8	3800	2000	94
AMESP350U-48S277JZ	85-305	120-430	350.4	48/7.32	45.6-50.4	2000	1000	94

Input Specifications					
Parameters	Conditions	Typical	Minimum	Maximum	Units
Input current	115VAC			4	A
	230VAC			2	A
Inrush current	Cold Start, 115VAC	30			A
	Cold Start, 230VAC	60			A
Leakage	240VAC, 50Hz			0.5	mA RMS
Input Frequency			47	63	Hz
Power Factor	Full Load, 115VAC	0.98			
	Full Load, 230VAC	0.98			
Input Voltage Range	AC Input		85	305	VAC
	DC Input		120	430	VDC
Hot Plug	Unavailable				

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full Load, 5V	±2		%
	Full Load, 12V/24V/36V/48V	±1		%
Line regulation	Rated Load, 5V	±0.5		%
	Rated Load, 12V/24V/36V/48V	±0.3		%
Load Regulation	0%-100% load, 5V	±1		%
	0%-100% load, 12V/24V/36V/48V	±0.5		%
Ripple & Noise*	20MHz bandwidth (peak to peak value), 5V/12V		200	mV p-p
	20MHz bandwidth (peak to peak value), 24V/36V/48V		240	mV p-p
Hold up time	115VAC	12		ms
	230VAC	12		ms
Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.				

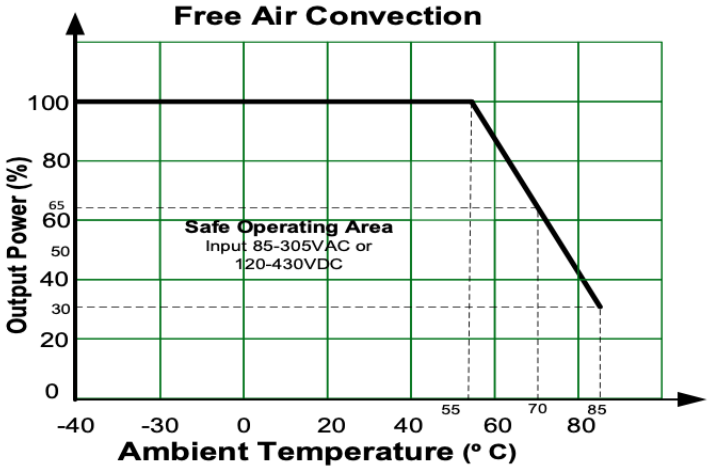
Isolation Specification				
Parameters	**Conditions**	Minimum	**Maximum**	**Units**
Tested Input-GND	60 sec, leakage ≤ 5mA	2000		VAC
Tested I/O voltage		4000		VAC
Tested Output-GND voltage		1500		VAC
Resistance	500VDC	>50		MΩ

General Specifications					
Parameters	**Conditions**	**Typical**	**Minimum**	**Maximum**	**Units**
Safety class	Class I				
Over current protection	230VAC, rated load at room/high temperature, 110%-200%Io, delay protection, delay time 1s, self-recovery after the abnormality is removed				
	230VAC, rated load at low temperature, ≥110%Io, delay protection, delay time 1s, self-recovery after the abnormality is removed				
Over voltage protection	5Vout, hiccup, self-recovery			6.5	VDC
	12Vout, hiccup, self-recovery			15.6	VDC
	24Vout, hiccup, self-recovery			31.6	VDC
	36Vout, hiccup, self-recovery			46.8	VDC
	48Vout, hiccup, self-recovery			62.4	VDC
Short circuit protection	5V, Hiccup mode, constant current (200%Io-300%Io) works 200ms, turn off 10s, continuous, self-recovery Recovery time <10s after the short circuit disappear.				
	12V/24V/36V/48V, Hiccup mode, constant current (200%Io-300%Io) works 1s, turn off 10s, continuous, self-recovery Recovery time <10s after the short circuit disappear.				
Operating temperature	See derating graph	-40 to +85			°C
Storage temperature		-40 to +85			°C
Power Derating	55 °C to 85 °C, with aluminum plate		2.5		%/°C
	55 °C to 70 °C, 230VAC, 5V output without aluminum plate		2		%/°C
	70 °C to 85 °C, 230VAC, 5V output without aluminum plate		1.33		%/°C
	55 °C to 70 °C, 230VAC, 12V/24V/36V/48V output without aluminum plate		3.33		%/°C
	70 °C to 85 °C, 230VAC, 12V/24V/36V/48V output without aluminum plate		1.33		%/°C
	55 °C to 85 °C, 110VAC, without aluminum plate		1.33		%/°C
	80VAC ~ 100VAC input voltage		2		%/VAC
Cooling	Free air convection				
Humidity	Non-condensing		10	95	% RH
Case material	Metal (AL6063, SGCC)				
Weight		680			g
Dimensions (L x W x H)			220.00 x 62.00 x 31.00 mm		
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.					

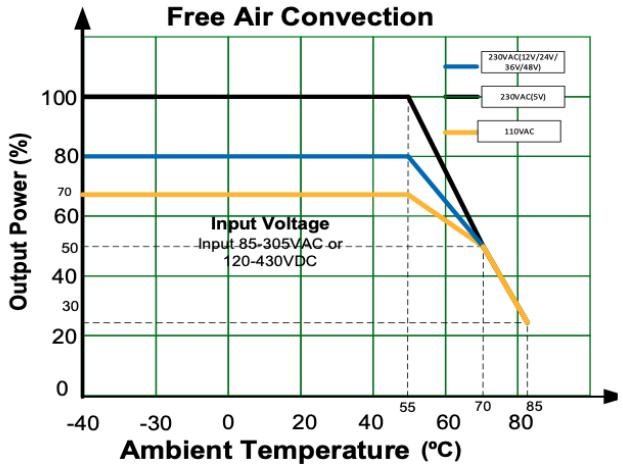
Safety Specifications		
Parameters		
Agency approvals	Designed to meet EN/UL/BS EN62368-1, EN60335-1, EN61558-1, GB4943.1	
Standards	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B
	Harmonic Current	IEC/EN61000-3-2 CLASS A
	Electrostatic Discharge Immunity	IEC/EN 61000-4-2 Contact ±6KV, Air ±8KV, Criteria A
	RF, Electromagnetic Field Immunity	IEC/EN 61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC/EN 61000-4-4 ±2KV, Criteria A with the recommended EMC circuit
	Surge Immunity	IEC/EN 61000-4-5 L-L ±2KV, L-GND ±4KV, Criteria A
	RF, Conducted Disturbance Immunity	IEC/EN 61000-4-6 10Vr.m.s, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC/EN 61000-4-11 0%, 70%, Criteria B
	Voltage Flicker	IEC/EN61000-3-2

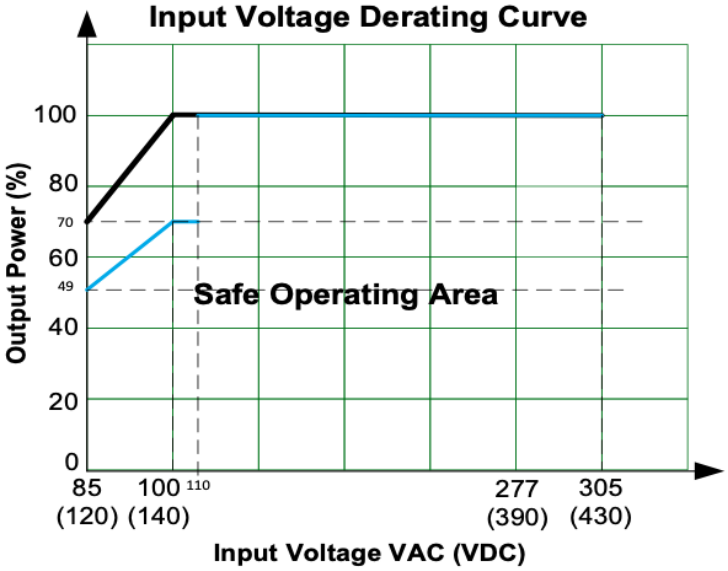
Derating

With Aluminum Plate

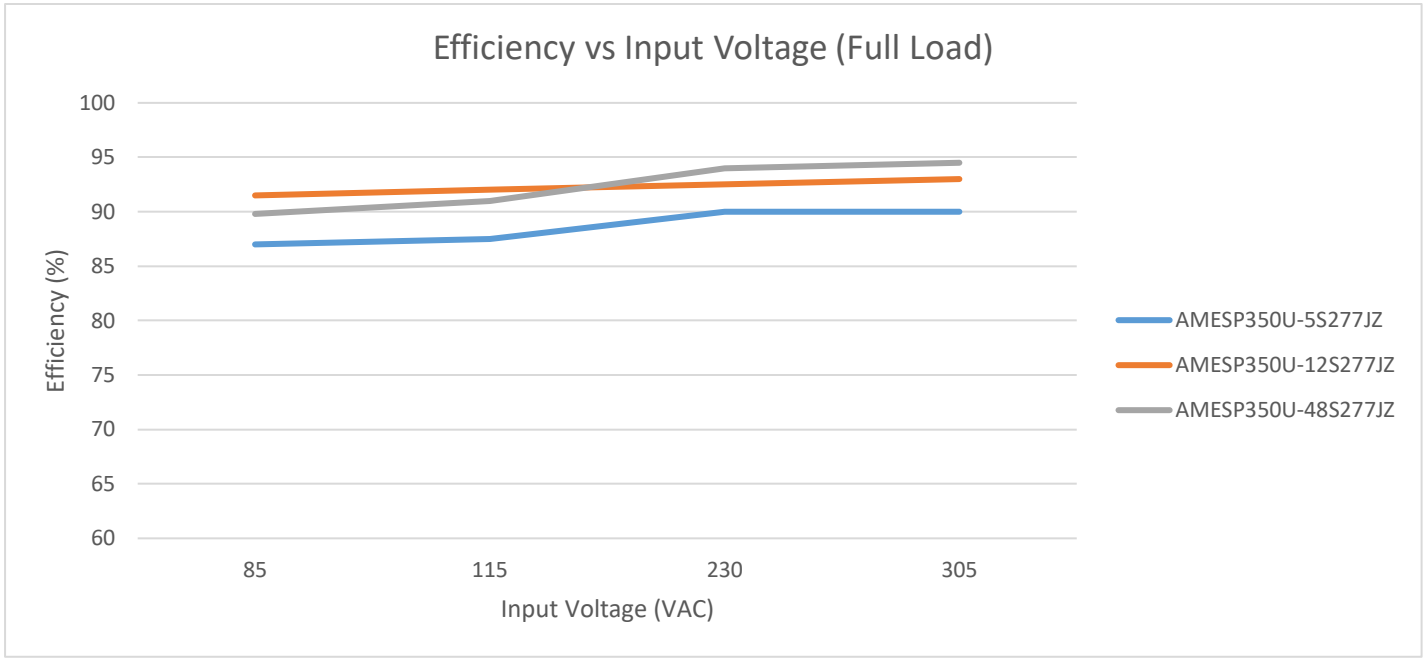


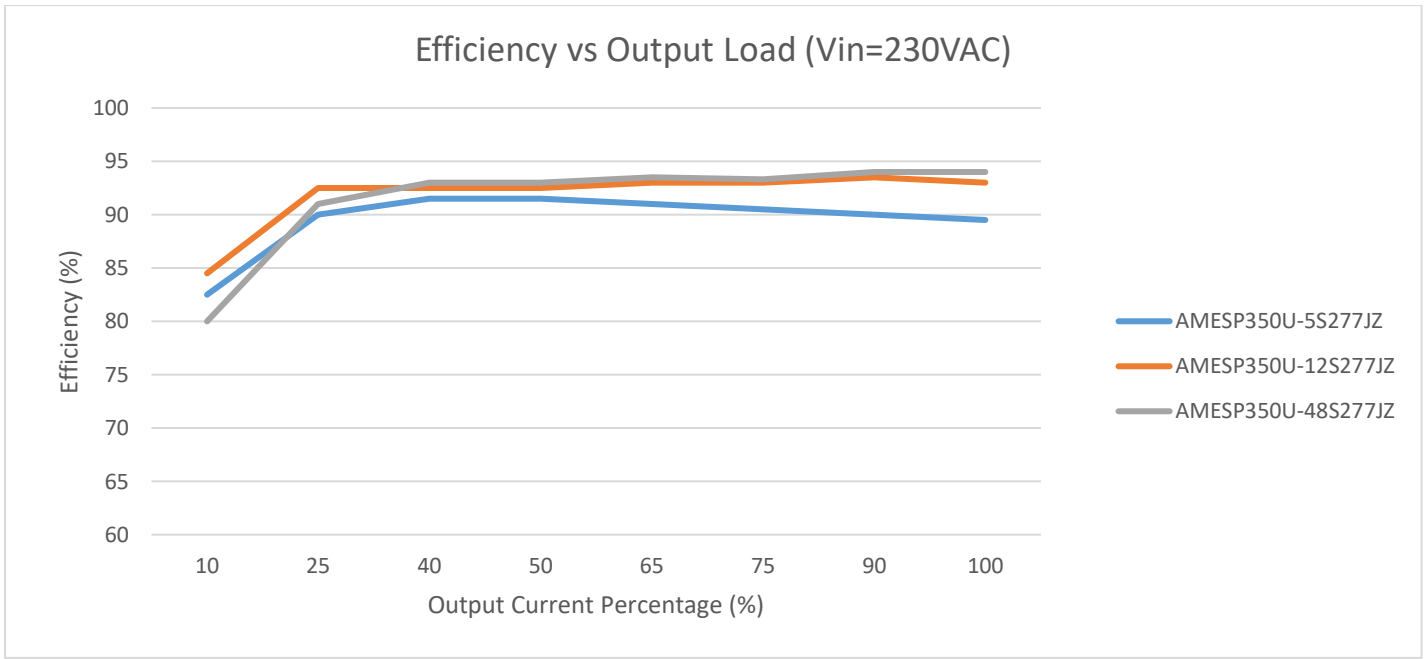
Without Aluminum Plate



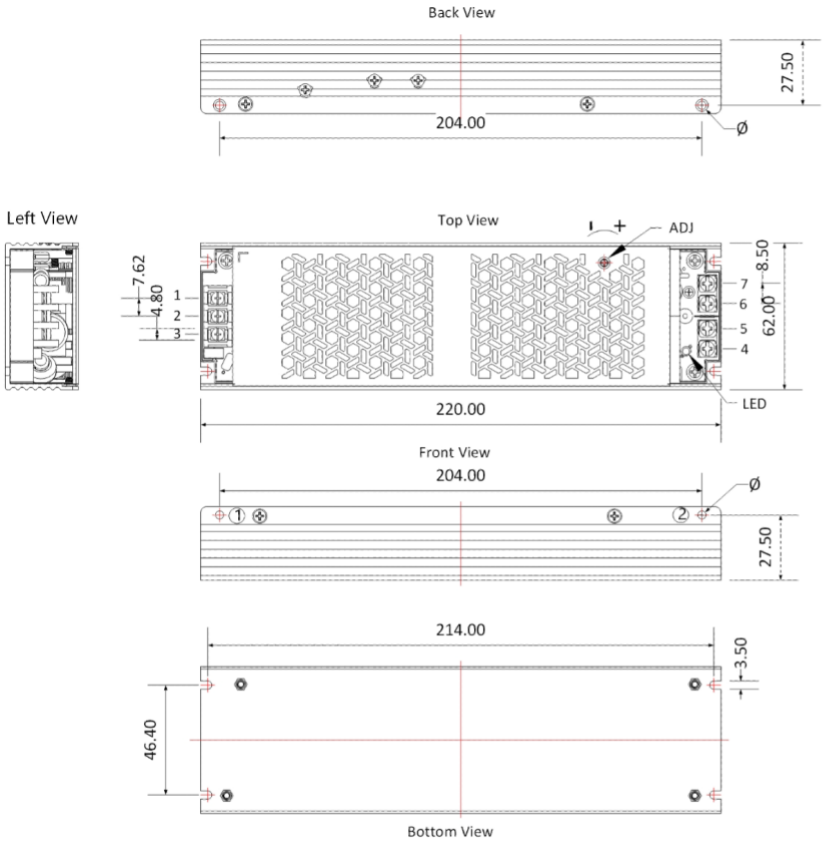


Efficiency vs input voltage



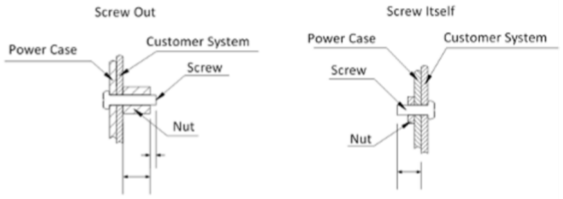


Dimensions



Pin-Out	
Pin	Mark
1	⏚
2	AC(N)
3	AC(L)
4	+Vo
5	+Vo
6	-Vo
7	-Vo

Position	Screw Spec.	L(max)	Torque (max)
① - ②	M3	6mm	0.4N-m



Note:
Unit: mm[inches]
ADJ: Output adjustable resistor
Wire range: 22-14AWG
Tightening torque: M3, Max 0.5N-m
General tolerances: ±1.00[±0.039]

Note:
1. That is a schematic diagram of side installation, install with M3×6 combination screws, derating refer to without aluminum plate curve.
2. That is the schematic diagram of the bottom installation, install with M3×4 round head screws, it is necessary to apply thermal grease on the bottom of the product, derating refer to with aluminum plate curve.