AMESP750U-277JZ

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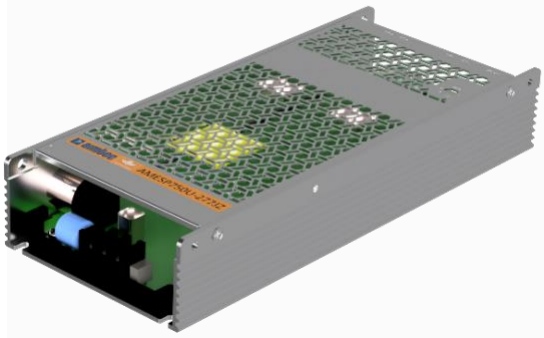


Enclosed

The AMESP750U-277JZ series is an efficient, enclosed, fan less, ultra-narrow, and semi-potted 750W AC/DC power supply module. It offers a wide commercial input voltage range of 85-305VAC, output voltage ranges from 12-48V, 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 45°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), output over-voltage protection (OVP), and over temperature protection (OTP) come standard with the series.

The AMESP750U-277NZ is suitable for street lighting controls, grid power, instrumentation, industrial controls, communication, and civil applications.

Features

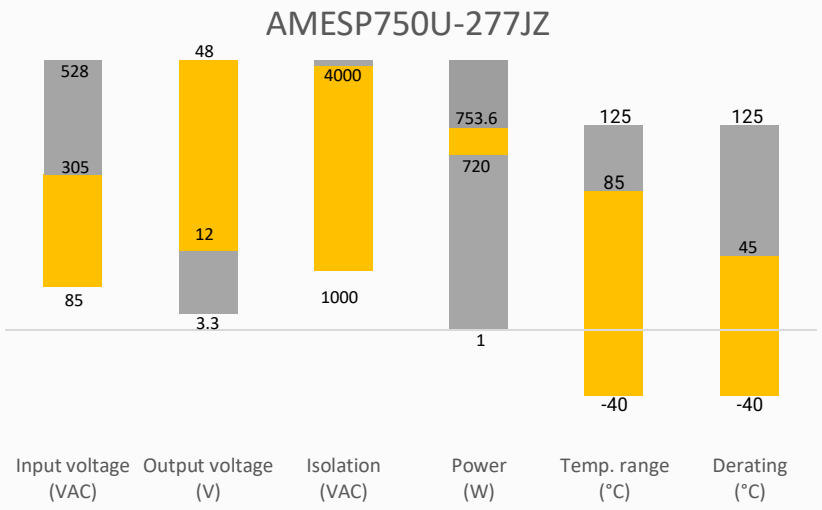
- Universal Input: 85 - 305VAC/120 - 430VDC
- Operating Temp: -40°C to +85°C
- High isolation voltage: 4000VAC
- Active PFC
- Output short circuit, over-current, over-voltage, over-temperature protection
- Efficiency up to 96%
- 150% peak load output for 1 second
- Operating altitude up to 5000m
- UL/EN62368
- Designed to meet : EN60335, EN61558, GB4943

RoHS

3yr Warranty

CE

Summary



Training

Product Training Video

Press Release

Coming Soon!

Application Notes

Applications

Power Grid

Industrial

Telecom

Models & Specifications

Single Output

Model	Input Voltage (VAC)	Input Voltage (VDC)	Rated Output Power (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. (%)
AMESP750U-12S277JZ	85-305	120-430	720.0	12/60	12-14.4	12000	6000	94
AMESP750U-24S277JZ	85-305	120-430	751.2	24/31.3	24-28.8	10000	4000	95
AMESP750U-28S277JZ	85-305	120-430	750.4	28/26.8	28-33.6	9000	3500	95
AMESP750U-36S277JZ	85-305	120-430	752.4	36/20.9	36-43.2	8000	3000	95
AMESP750U-48S277JZ	85-305	120-430	753.6	48/15.7	48-57.6	6000	2000	96

Input Specifications

Parameters	Conditions	Typical	Minimum	Maximum	Units
Input current	115VAC			7.5	A
	230VAC			3.8	A
Inrush current	Cold Start, 115VAC	20			A
	Cold Start, 230VAC	40			A
Leakage	277VAC, 50Hz			<0.5	mA
Input Frequency			47	63	Hz
Power Factor	Full Load, 25°C, 115VAC	0.98			
	Full Load, 25°C, 230VAC	0.95			
Hot Plug	Unavailable				

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full Load Range	±1.0		%
Line regulation	Rated Load	±0.5		%
Load Regulation	0%-100% Load	±0.5		%
Ripple & Noise*	20MHz bandwidth 12V		150	mV p-p
	(peak-to-peak value), 25°C 24V/28V/36V/48V		200	mV p-p
Minimum Load	0			%
Stand-by Power Consumption	25°C, 230VAC input		5	W
Peak Load Output	100-277VAC, test for 1s	150%		W
Hold up time	Room Temperature, Full Load, 115VAC/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
Isolation	Tested Input-GND	60 sec, leakage < 5mA	2000		VAC
	Tested I/O voltage		4000		
	Tested Output-GND voltage		1750		
Insulation Resistance	Tested Input-GND	Environment temperature: 25 ± 5°C Relative humidity: <95%RH, non-condensing Testing Voltage: 500VDC	50		MΩ
	Tested I/O voltage				
	Tested Output-GND voltage				

General Specifications

Parameters	Conditions	Typical	Minimum	Maximum	Units
Safety class	Class I				
Over current protection	Constant current hiccup protection, Auto recovery	≥ 110		170	% of Iout
Over voltage protection	12V output, Hiccup, Auto recovery		14.5	17	VDC
	24V output, Hiccup, Auto recovery		29.0	33	VDC
	28V output, Hiccup, Auto recovery		33.5	38.0	VDC
	36V output, Hiccup, Auto recovery		43.5	49	VDC
	48V output, Hiccup, Auto recovery		59.0	63	VDC
Over temperature protection	Output voltage turn off, Auto recovery after the temperature drops				
Short circuit protection	Constant current hiccup protection, continuous, auto-recover, recovery time < 5 sec after short circuit disappears				
Operating temperature	See derating graph		-40	+85	°C
Storage temperature			-40	+85	°C
Power Derating	45 °C to 85 °C, 12V output with aluminum plate		2		%/°C
	50 °C to 85 °C, 24V/28V/36V/48V output with aluminum plate		2.5		%/°C
	45 °C to 85 °C, 12V/24V/28V/36V/48V output (derating from 70% load) without aluminum plate		1.6		%/°C
	85VAC ~ 180VAC input voltage		0.33		%/VAC
Cooling	Free air convection				
Operating humidity	Non-condensing		20	90	% RH
Storage humidity	Non-condensing		10	95	% RH
Case material	Metal (AL6063, SGCC)				
Weight		1300			g
Dimensions (L x W x H)	9.33 x 3.94 x 1.61 inches (237.00 x 100.00 x 41.00 mm)				
MTBF	> 300,000 hrs (MIL-HDBK - 217F, t=+25°C)				

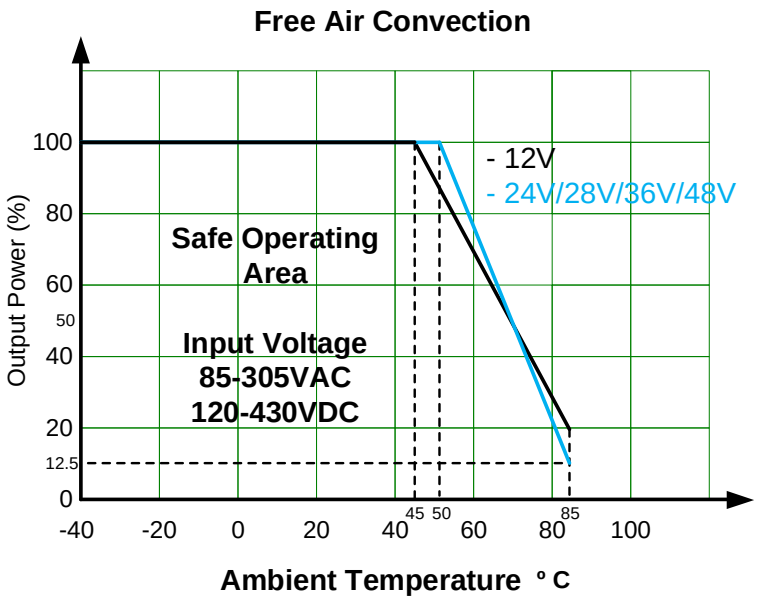
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications

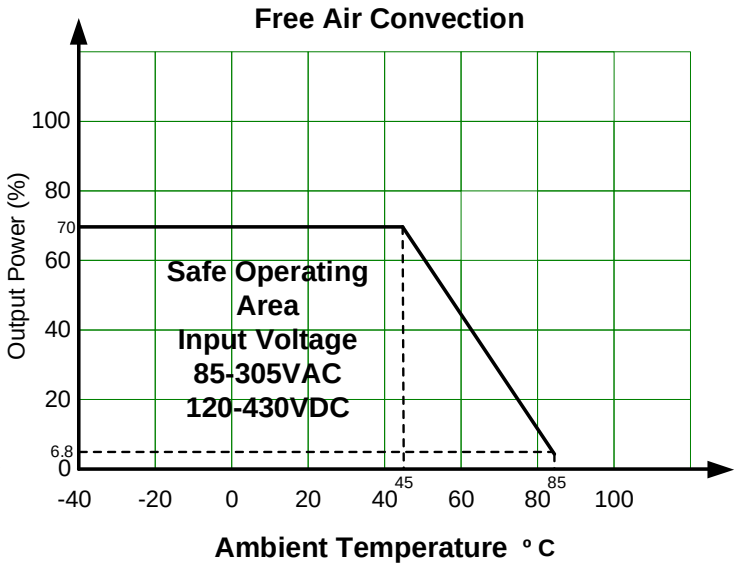
Parameters			
Agency approvals	EN62368-1		
Standards	Information Technology Equipment		Designed to meet UL62368-1, EN60335, EN61558, GB4943
	EMC - Conducted and radiated emission		CISPR32 / EN55032, class B
	Harmonic Current		IEC/EN61000-3-2 CLASS A
	Electrostatic Discharge Immunity		IEC/EN61000-4-2 Contact ±8KV, Air ±15KV, Criteria A
	RF, Electromagnetic Field Immunity		IEC/EN61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	Input port	IEC/EN61000-4-4 ±2KV, Criteria A
		Output port	IEC/EN61000-4-4 ±2KV, Criteria A
	Surge Immunity	Input port	IEC/EN61000-4-5 L-L ±2KV, L-GND ±4KV, Criteria A
		Output port	IEC/EN61000-4-5 L-L ±0.5KV, L-GND ±1KV, Criteria A
	RF, Conducted Disturbance Immunity	Input port	IEC/EN61000-4-6, 10Vr.m.s, Criteria A
		Output port	IEC/EN61000-4-6, 10Vr.m.s, Criteria A
	Power Frequency Magnetic Field		IEC/EN61000-4-8, 10A/m, Criteria A
	Voltage dips, Short Interruptions Immunity		IEC/EN61000-4-11 0%, 70%, Criteria B
	Voltage Flicker		IEC/EN6100-3-3

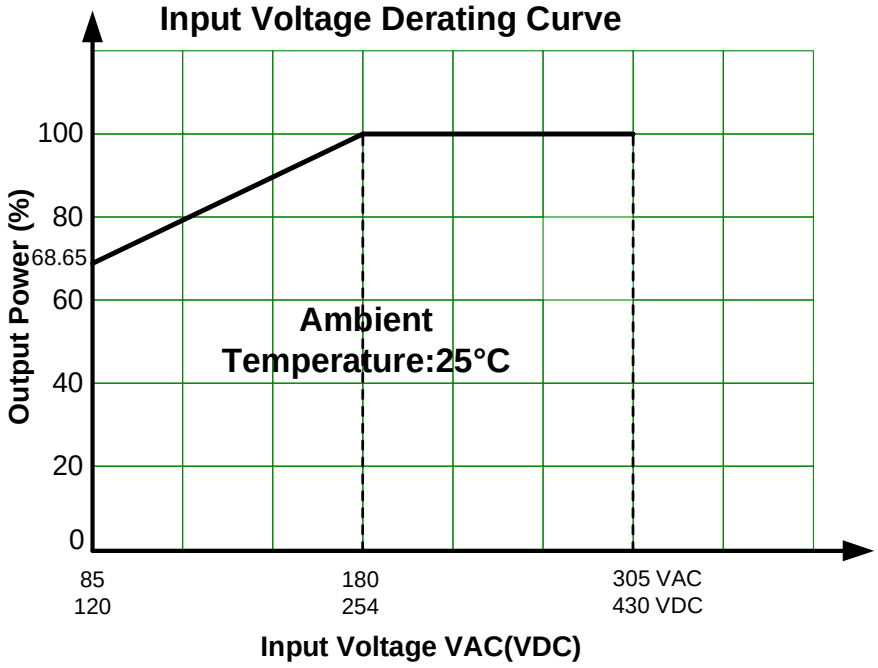
Derating

Thermal Derating with Aluminum Plate

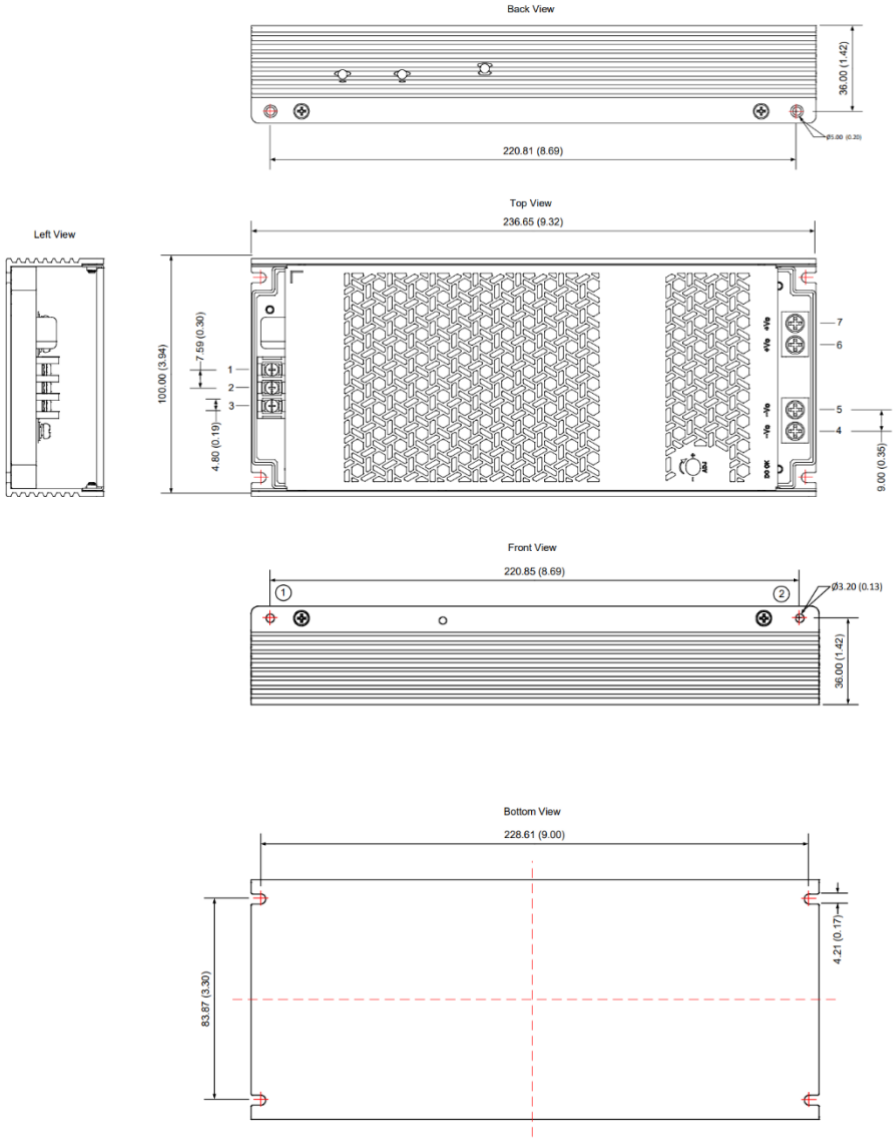


Without Aluminum Plate





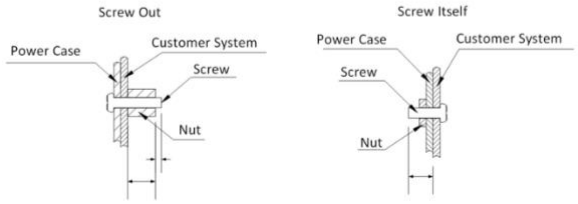
Dimensions



THIRD ANGLE PROJECTION

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

Position	Installation Method	Screw Spec.	L	Torque(max)
① - ②	Screw Out	M3	Min 10mm	0.4N-m
	Screw Itself	M3	Max 8mm	0.4N-m



Note:
Unit: mm (inch)
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.