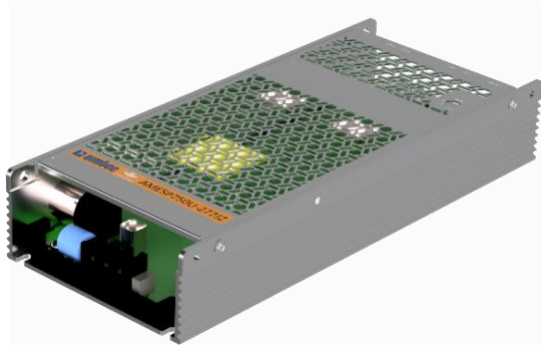


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AMESP750U-277JZ



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.

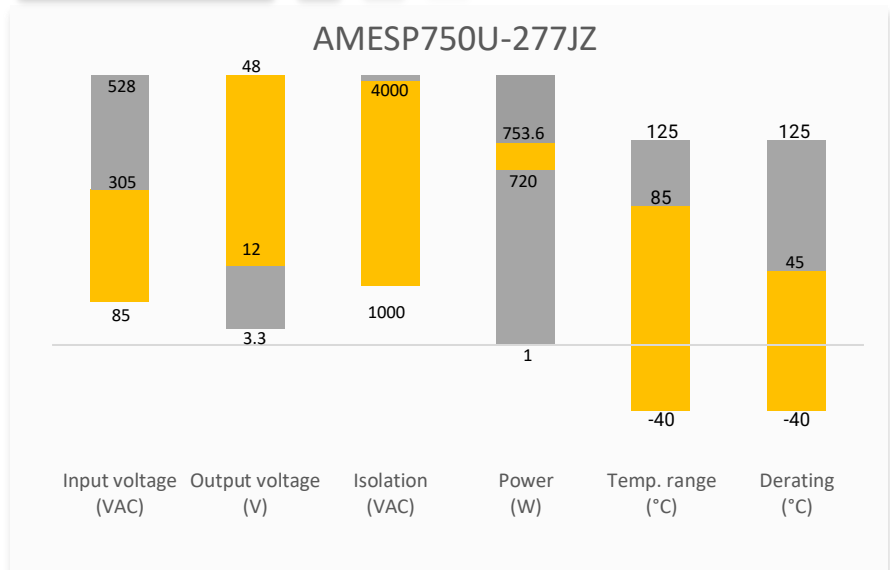
The AMESP750U-277NZ is suitable for street lighting controls, grid power, instrumentation, industrial controls, communication, and civil applications.

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



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

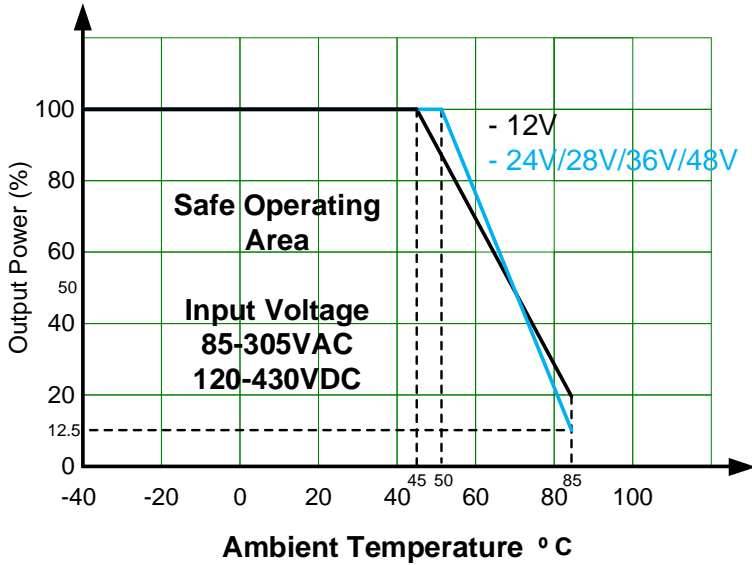
Parameters	Conditions	Minimum	Maximum	Units	
Isolation	Tested Input-GND Tested I/O voltage Tested Output-GND voltage	60 sec, leakage < 5mA	2000		VAC
			4000		
			1750		
Insulation Resistance	Tested Input-GND Tested I/O voltage Tested Output-GND voltage	Environment temperature: 25 ± 5°C Relative humidity: <95%RH, non-condensing Testing Voltage: 500VDC	50		MΩ

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.					

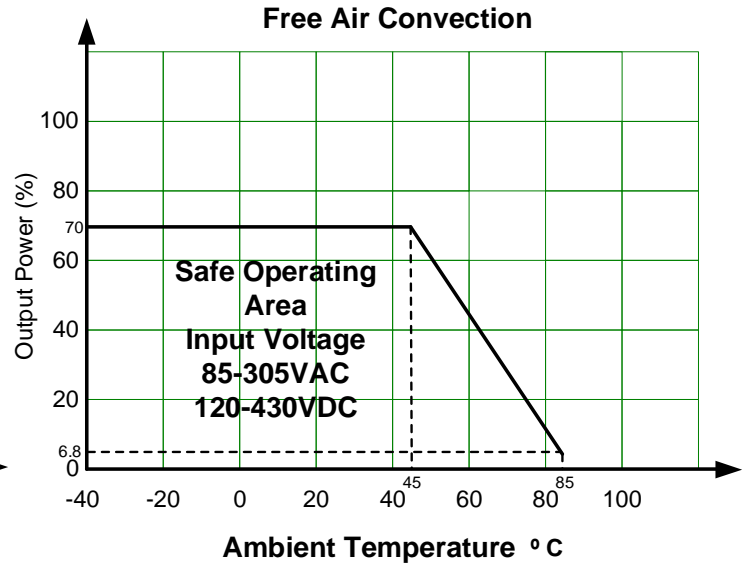
Safety Specifications			
Parameters			
Agency approvals	EN62368-1		
Standards	Information Technology Equipment	Designed to meet UL62368-1, EN60335, EN61558, GB4943	
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B	
	Harmonic Current	IEC/EN61000-3-2 CLASS A	
	Electrostatic Discharge Immunity	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

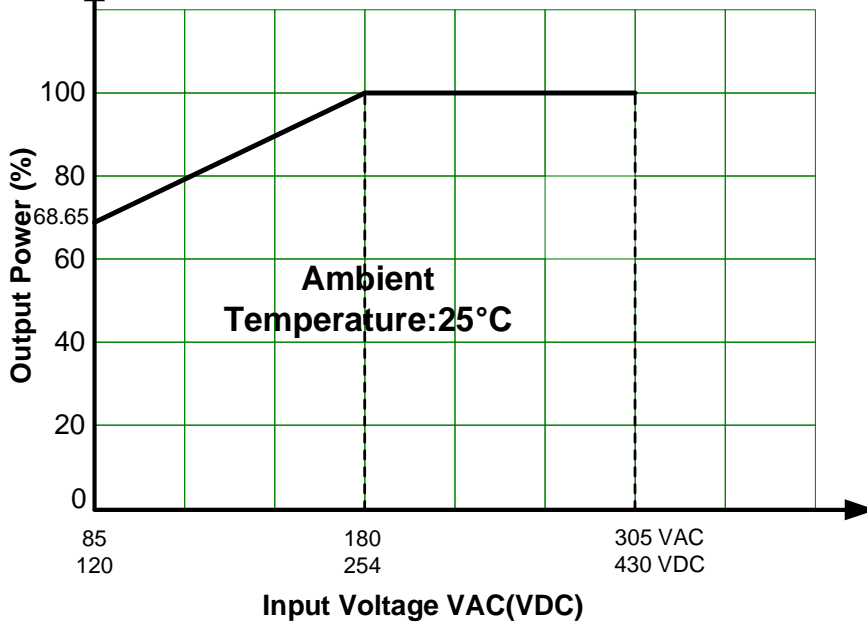
Thermal Derating with Aluminum Plate
Free Air Convection



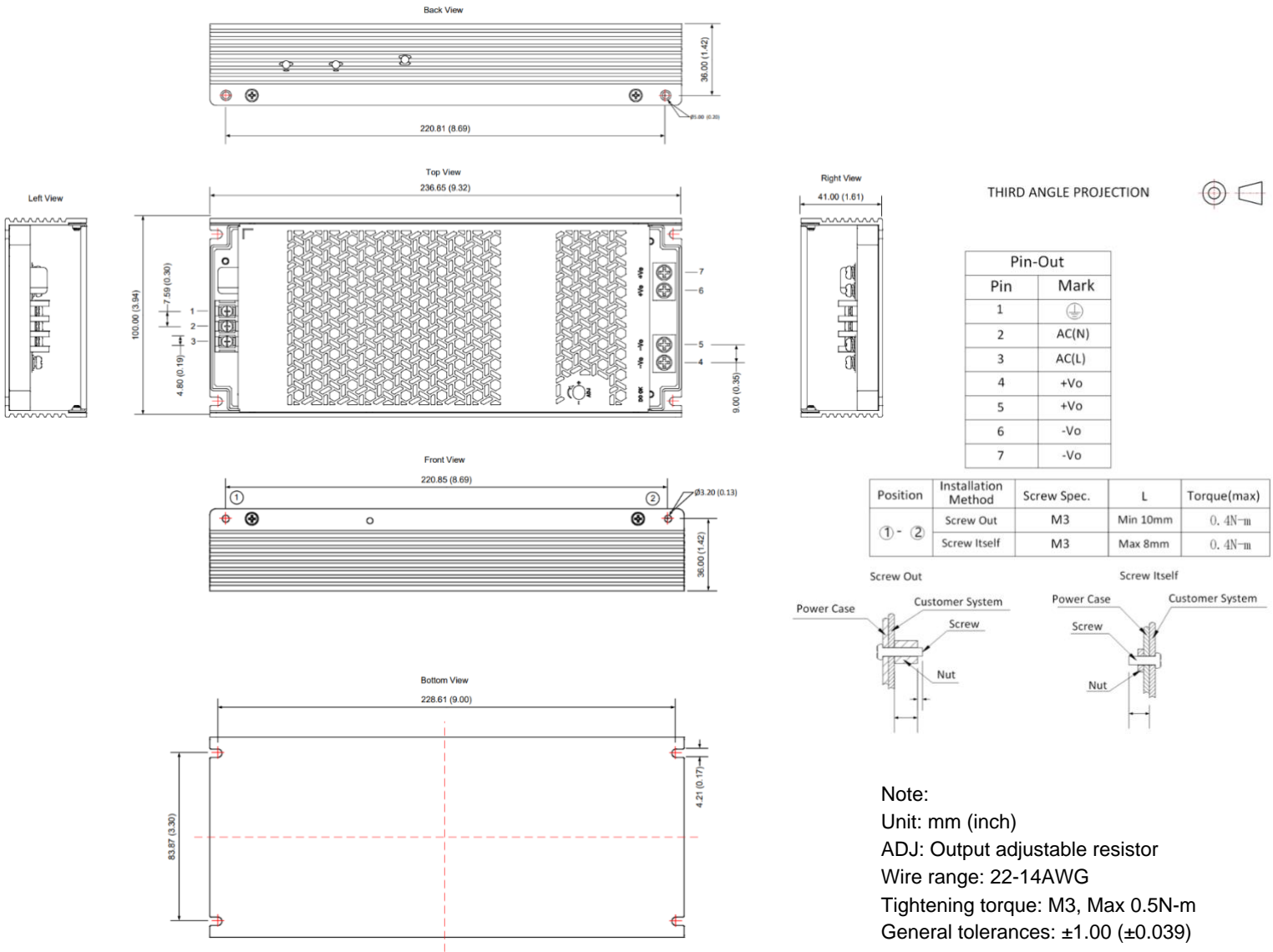
Without Aluminum Plate



Input Voltage Derating Curve



Dimensions



Note:

- That is a schematic diagram of side installation, install with M3×6 combination screws, derating refer to without aluminum plate curve.
- 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.

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.