AEFUH750-xx Series

DESCRIPTIONS

750W, AC/DC Enclosed Switching Power Supply

RoHS

Report Report

UL62368-1 EN62368-1 BS EN62368-1

FEATURES

- Universal 85 - 305VAC or 120 - 430VDC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Semi-potted process, fanless design
- Operating ambient temperature range: -40℃ to +85℃
- Low Ripple & Noise, high efficiency
- Active PFC
- 150% peak load output for 1 second
- High I/O isolation test voltage up to 4000VAC
- Output short circuit, over-current, over-voltage, over-temperature protection
- Operating altitude up to 5000m
- Safety according to IEC62368, IS13252 (Part1), IEC60335, EN61558

APPLICATIONS

- Industrial
- Lighting
- Electricity
- Security
- Telecommunications
- Smart home

Selection Guide

Certification	Part No*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)	Efficiency at 230VAC (%) Typ.	Capacitive Load (uF) Max.
EN/BS EN	AEFUH750-12	720.0	12V/60A	12-14.4	94	12000
UL/EN/BS EN	AEFUH750-24	751.2	24V/31.3A	24-28.8	95	10000
EN/BS EN	AEFUH750-28	750.4	28V/26.8A	28-33.6	95	9000
	AEFUH750-36	752.4	36V/20.9A	36-43.2	95	8000
UL/EN/BS EN	AEFUH750-48	753.6	48V/15.7A	48-57.6	96	6000

Note: 1.*Under any conditions, the total power of the product should not exceed the rated output power, and the output current should not exceed the rated output current;

2 *For products with terminal cover, please order "CPJ-042" for self-installation.

3. *The product picture is for reference only, for details, please refer to the actual product.

Specifications

Product Specifications	Item		Operating Conditions		Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range		Rated input (Certified voltage)		100	--	277	VAC
			AC input		85	--	305	
			DC input		120	--	430	VDC
	Input Voltage Frequency				47	--	63	Hz
	Input Current		115VAC		--	--	7.5	A
			230VAC		--	--	3.8	
	Inrush Current		115VAC	Cold start	--	--	20	
			230VAC		--	--	40	
	Power Factor		115VAC	Full load, 25℃	0.98	--	--	--
			230VAC		0.95	--	--	
	Leakage Current		277VAC, 50Hz	Contact leakage current	< 0.5mA			
	Hot Plug				Unavailable			
Output Specifications	Output Voltage Accuracy		Full load range		--	±1.0	--	%
	Line Regulation		Rated load		--	±0.5	--	
	Load Regulation		0% - 100% load		--	±0.5	--	
	Ripple & Noise*		20MHz bandwidth (peak-to-peak value), 25℃	12V	--	--	150	mV
				24V/28V/36V/48V	--	--	200	
	Minimum Load				0	--	--	%
	Stand-by Power Consumption		25℃, 230VAC input		--	--	5	W
	Peak Load Output		100 - 277VAC, test for 1s		--	150%Io	--	
	Hold-up Time		25℃, full load, 115VAC/230VAC		12	--	--	ms
	Short Circuit Protection		Recover time <5S after the short circuit disappear		Constant current hiccup protection, continuous, self-recover			
	Over-current Protection				> 110% - 170% Io, constant current hiccup protection, self-recover			
	Over-voltage Protection		12V		≤17VDC	Hiccup, self-recover		
			24V		≤33VDC			
			28V		≤38VDC			
			36V		≤49VDC			
			48V		≤63VDC			
	Over-temperature Protection				Output voltage turn off, self-recover after the temperature drops			
General Specifications	Isolation	Input - ⏚	Electric strength test for 1min., leakage current <5mA		2000	--	--	VAC
		Input - output			4000	--	--	
		Output - ⏚			1750	--	--	
	Insulation	Input - ⏚	Environment temperature: 25±5℃		50	--	--	MΩ

	Resistance	Input - output	Relative humidity: <95%RH, non-condensing Testing voltage: 500VDC				--	--	
		Output - ⏚					--	--	
	Operating Temperature					-40	--	+85	℃
	Storage Temperature					-40	--	+85	
	Operating Humidity		Non-condensing			20	--	90	%RH
	Storage Humidity					10	--	95	
	Power Derating	Operating temperature derating	With aluminum plate or 23.5CFM fan*	12V	-40℃ to +45℃	0	--	--	%/℃
					+45℃ to +85℃	2	--	--	
				24V/28V/36V/48V	-40℃ to +50℃	0	--	--	
					+50℃ to +85℃	2.5	--	--	
			Without aluminum plate	12V/24V/28V/36V/48V (70% start derating)	-40℃ to +45℃	0	--	--	
					+45℃ to +85℃	1.58	--	--	
		Input voltage derating		85VAC - 180VAC		0.33	--	--	%/VAC
				180VAC - 305VAC		0	--	--	
	Safety Class					CLASS I			
	MTBF		MIL-HDBK-217F@25℃			≥300,000 h			
Mechanical Specifications	Case Material		Metal (AL6063, SGCC)						
	Dimensions		237.00mm x 100.00mm x 41.00mm						
	Weight		1300g (Typ.)						
	Cooling Method		Free air convection						

Note: 1. *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, When the product is working at a light load (<10% of rated load), the product is in a green working mode to improve efficiency, and the ripple & noise specification is ≤2.0 times of the rated specification.

2. *In order to optimize the heat dissipation performance, when the aluminum plate is used for auxiliary heat dissipation, please note: (1). The size of the aluminum plate is 450mm × 450mm × 3mm;(2). The surface of the aluminum plate mast be coated with thermal grease; (3). The product must be tightly attached to the aluminum plate.

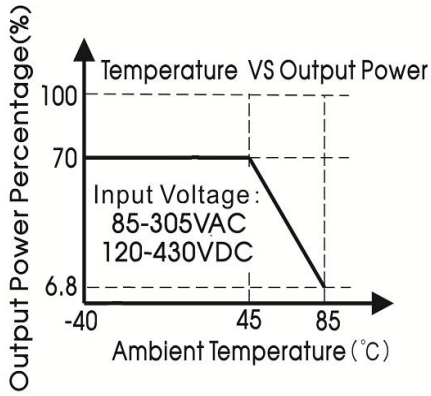
Electromagnetic Compatibility (EMC)

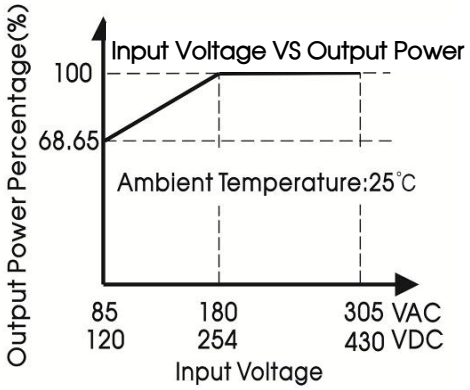
Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32/EN55032 CLASS B	
		RE	CISPR32/EN55032 CLASS B	
		Harmonic current	IEC/EN61000-3-2 CLASS A	
		Voltage flicker	IEC/EN6100-3-3	
	Immunity (EMS)	ESD	IEC/EN61000-4-2 Contact ±8KV/Air ±15KV	Perf. Criteria A
		RS	IEC/EN61000-4-3 10V/m	
		EFT (Input port)	IEC/EN61000-4-4 ±2KV	
		EFT (Output port)	IEC/EN61000-4-4 ±2KV	
		Surge (Input port)	IEC/EN61000-4-5 Line to line ±2KV/line to PE ± 4KV	
		Surge (Output port)	IEC/EN61000-4-5 Line to line ±0.5KV/line to PE ±1KV	
		CS (Input port)	IEC/EN61000-4-6 10Vr.m.s	
		CS (Output port)	IEC/EN61000-4-6 10Vr.m.s	
		Power frequency	IEC/EN61000-4-8 10A/m	

		magnetic field		
		Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11 0%, 70%	Perf. Criteria B

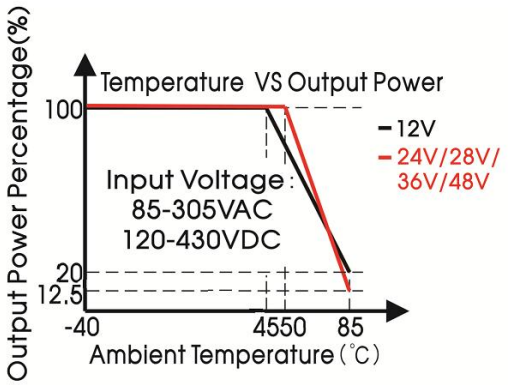
Characteristic Curve

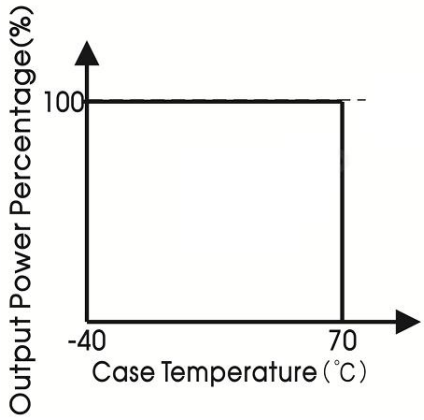
No aluminum plate for heat dissipation





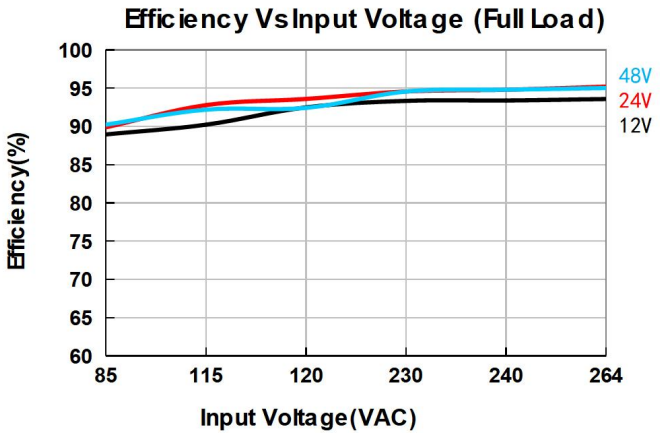
With aluminum plate for heat dissipation or 23.5CFM

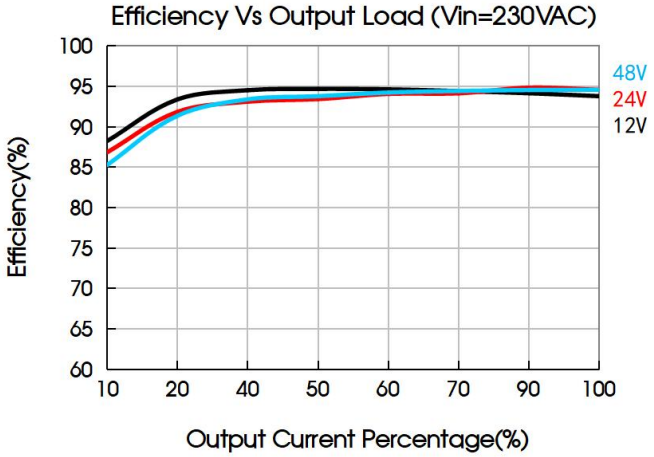




Note: 1. With an AC input voltage between 85 -180VAC and a DC input between 120 - 254VDC the output power must be derated as per the temperature derating curves;

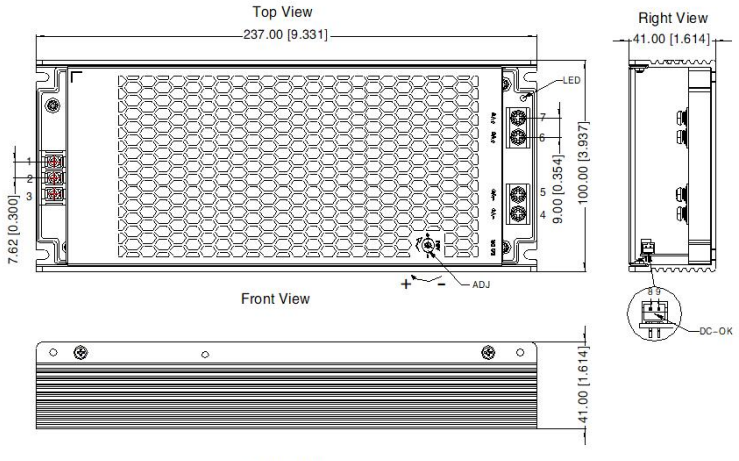
2. This product is suitable for applications using natural air cooling.





Dimensions and Recommended

THIRD ANGLE PROJECTION

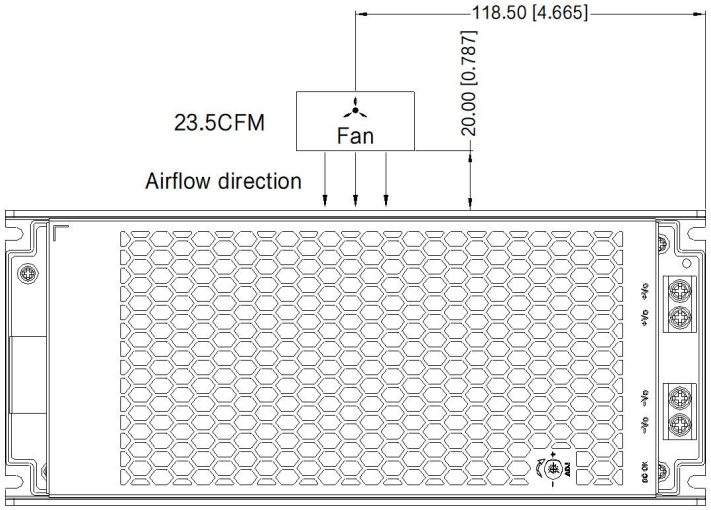


Pin-Out	
Pin	Mark
1	⏚
2	AC/N
3	AC/L
4	-V0
5	-V0
6	+V0
7	+V0
8	DC-OK-
9	DC-OK+

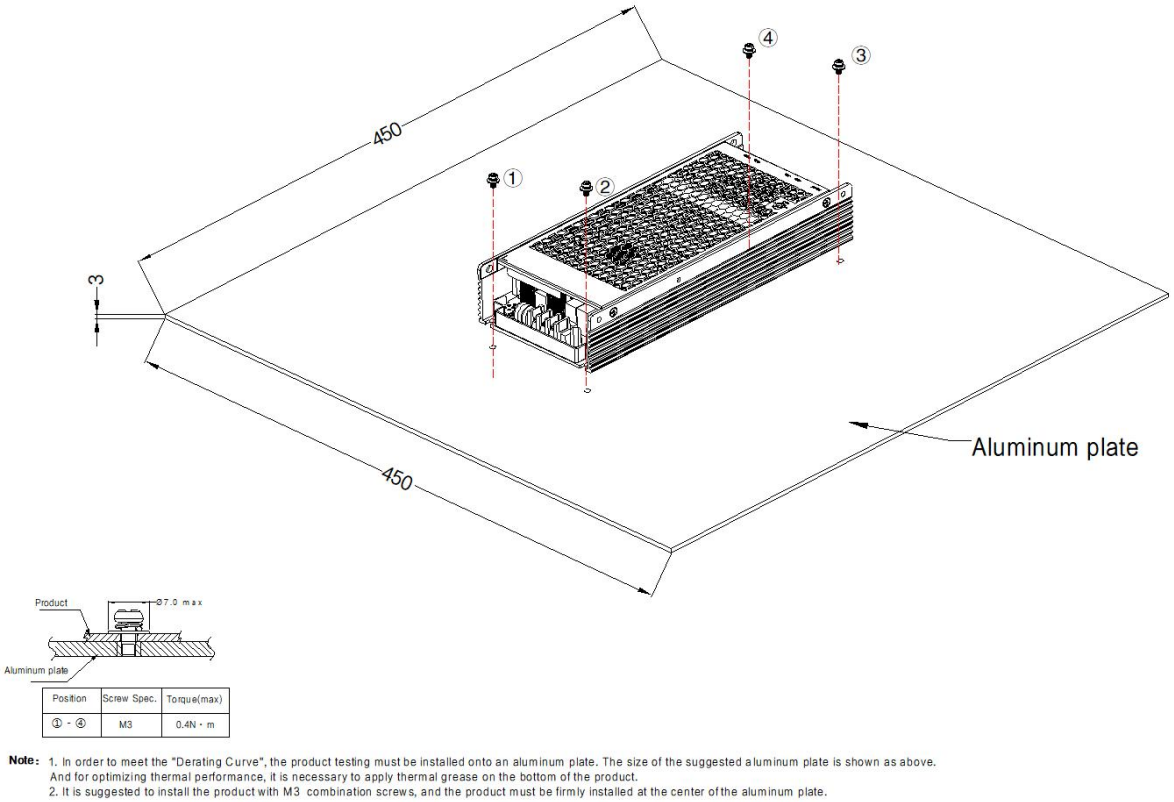
Connector wires range

Pro. No	Input connector	Output connector	Output connector (double wires) Pic.
12V	22-14AWG	12AWG	+Vo double wires
24/28/36V		16-12AWG	
48V		18-12AWG	-Vo double wires
Screw/torque	M3.0, Max 0.5N · m	M4.0, Max 0.9N · m	

Note:
Unit: mm[inch]
LED: Output status indicator LED
ADJ: Output adjustable resistor
DC-OK: JST SPH-002T-P0.5S or equivalent
General tolerances: ± 1.00[± 0.039]



Installation Diagram



Position	Screw Spec.	Torque(max)
① - ④	M3	0.4N・m

Note: 1. In order to meet the "Derating Curve", the product testing must be installed onto an aluminum plate. The size of the suggested aluminum plate is shown as above. And for optimizing thermal performance, it is necessary to apply thermal grease on the bottom of the product.
2. It is suggested to install the product with M3 combination screws, and the product must be firmly installed at the center of the aluminum plate.

Note: This is the schematic diagram of the bottom installation, install with M3 × 6 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. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity <75%RH with nominal input voltage and rated output load;
2. The room temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
5. Products are related to laws and regulations: see "Features" and "EMC";
6. The out case needs to be connected to PE (⏚) of system when the terminal equipment in operating;
7. The output voltage can be adjusted by the ADJ, clockwise to increase;
8. If product involves multi-brand materials and there are differences in color etc, please refer to the standards of each manufacturer;
9. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
10. The power supply is considered a component which will be installed into a terminal equipment. All EMC tests should be confirmed with the final equipment