AEFUH200-xx(-YW) Series

DESCRIPTIONS

200W, AC-DC Converter



RoHS

3 Years Warranty

c UL us Report — UL62368-1

CE Report — EN62368-1

UKCA Report — BS EN62368-1

CB — IEC61558-1, IEC60335-1

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 +70℃
- 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

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 (V)	Efficiency at 230VAC (%) Typ.	Capacitive Load (uF) Max.
UL/EN/ BS EN	AEFUH200-05	200	5V/40A	4.5-5.5	91	10000
UL/EN/ BS EN/IEC	AEFUH200-12	200.4	12V/16.7A	11.4-12.6	93	8000
	AEFUH200-24	201.6	24V/8.4A	22.8-25.2	94	5000
EN/BS EN	AEFUH200-28	200.2	28V/7.15A	26.6-29.4	94	4000
	AEFUH200-36	201.6	36V/5.6A	34.2-37.8	94	3000
	AEFUH200-48	201.6	48V/4.2A	45.6-50.4	94	2000
	AEFUH200-54	199.8	54V/3.7A	51.3-56.7	94	1000

Note:1. The product picture is for reference only, for details, please refer to the actual product.

2. *Use suffix "C" for terminal with protective cover, 12V, 24V output product with optional salt-spray proof at terminal: AEFUH200-xx-YW.

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		--	2.1	2.5	A
		230VAC		--	1.0	1.2	
	Inrush Current	115VAC	Cold start	--	40	--	
		230VAC		--	80	--	
	Power Factor	115VAC	Full load	--	0.98	--	--
		230VAC		--	0.95	--	
	Leakage Current	240VAC		< 0.5mA			
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range	5V	--	±2.0	--	%
			12V/24V/28V/36V/48V/54V	--	±1.0	--	
	Line Regulation	Rated load	5V	--	±0.5	--	
			12V/24V/28V/36V/48V/54V	--	±0.3	--	
	Load Regulation	0% - 100% load	5V	--	±1.0	--	
			12V/24V/28V/36V/48V/54V	--	±0.5	--	
	Ripple & Noise*	20MHz bandwidth, 25℃ (peak-to-peak value)	5V	--	--	200	mV
			12V/24V/28V/36V	--	--	240	
			48V/54V	--	--	300	
	Temperature Coefficient			--	±0.03	--	%/℃
	Minimum Load			0	--	--	%
	Hold-up Time	115VAC/230VAC		10	--	--	ms
	Short Circuit Protection	Recovery time <10s after the short circuit disappear.	5V	Hiccup mode, constant current (200%Io-300%Io) works 200ms, turn off 10s, continuous, self-recover			
			12V/24V/36V/48V/54V	Hiccup mode, constant current (200%Io-300%Io) works 1s, turn off 10s, continuous, self-recover			
	Over-current Protection	230VAC, rated load	Normal temperature, high temperature	105% - 200% Io, delay protection, delay time 1s, self-recovery after the abnormality is removed			
			Low temperature	≥105%Io, delay protection, delay time 1s, self-recovery after the abnormality is removed			

	Over-voltage Protection		5V			< 6.3V (Hiccup, self-recover)		
			12V			< 16V (Hiccup, self-recover)		
			24V			< 35V (Hiccup, self-recover)		
			28V			< 35V (Hiccup, self-recover)		
			36V			< 47V (Hiccup, self-recover)		
			48V			< 60V (Hiccup, self-recover)		
			54V			< 63V (Hiccup, self-recover)		
	Over-temperature Protection					Output voltage turn off, self-recover after the temperature drops		
General Specifications	Isolation Test	Input - ⏚	Electric strength test for 1min., leakage current <5mA			2000	--	--	VAC
		Input - output				4000	--	--	
		Output - ⏚				1250	--	--	
	Insulation Resistance	Input - ⏚	Ambient temperature: 25 ± 5℃ Relative humidity: < 95%RH, no condensation Test voltage: 500VDC			100	--	--	MΩ
		Input - output				100	--	--	
		Output - ⏚				100	--	--	
	Operating Temperature					-40	--	+70	℃
	Storage Temperature					-40	--	+85	
	Storage Humidity		Non-condensing			10	--	95	%RH
	Operating Humidity					20	--	90	
	Power Derating		Operating temperature derating	With aluminum plate*	-40℃ to -30℃	4.0	--	--	%/℃
					+50℃ to +70℃	2.0	--	--	
				Without aluminum plate	230VAC, others -40℃ to -30℃	4.0	--	--	
					230VAC, others +50℃ to +70℃	3.0	--	--	
					230VAC, 5V & 100VAC, others; 80%Io -40℃ to -30℃	2.0	--	--	
					230VAC, 5V & 100VAC, others; 80%Io +50℃ to +70℃	2.0	--	--	
					100VAC, 5V, 60%Io +50℃ to +70℃	1.0	--	--	
			Input voltage derating		85VAC -100VAC	2.0	--	--	%/VAC
	Safety Class					CLASS I			
	MTBF		MIL-HDBK-217F@25℃			> 300,000 h			
Mechanical Specifications	Case Material		Metal (AL6063, SGCC)						
	Dimensions		194.00mm x 55.00mm x 26.00mm						
	Weight		430g (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;

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 must be coated with thermal grease; 3. The product must be tightly attached

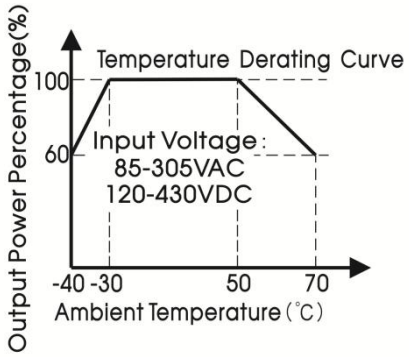
to the aluminum plate.

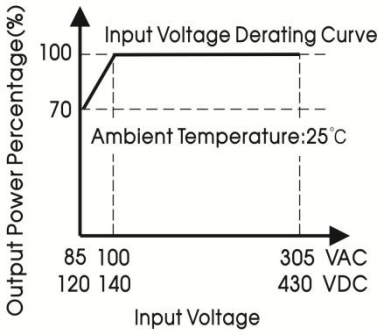
Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE (Input port)	CISPR32 EN55032 150K - 30MHz	CLASS B
		RE	CISPR32 EN55032 30MHz - 2GHz	CLASS B
		Harmonic current	IEC/EN61000-3-2	CLASS A, CLASS C and CLASS D
	Immunity (EMS)	ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV	perf. Criteria A
		RS	IEC/EN 61000-4-3 10V/m	perf. Criteria A
		EFT	IEC/EN 61000-4-4 ±4KV	perf. Criteria A
		Surge	IEC/EN 61000-4-5 line to line ±2KV/line to PE ± 4KV	perf. Criteria A
		CS	IEC/EN61000-4-6 0.15 - 80MHz 10 Vr.m.s	perf. Criteria A
		Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11 0%, 70%	perf. Criteria B
		Intercom interference fest	AT-SOP-TEST-0002	perf. Criteria B

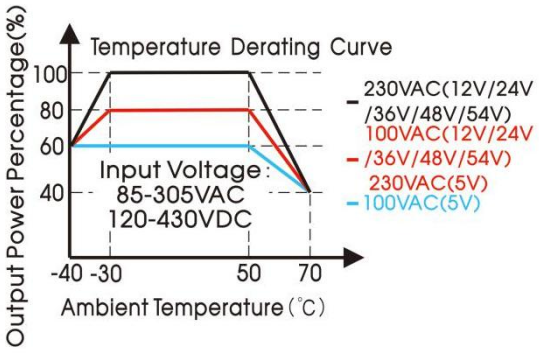
Characteristic Curve

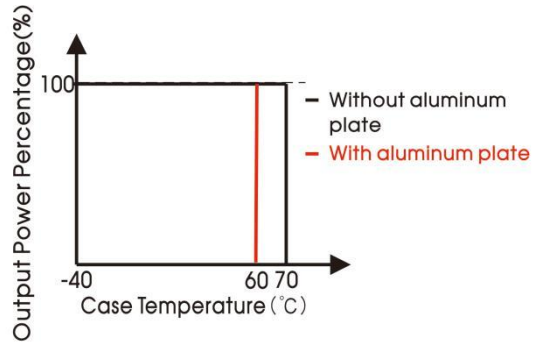
With aluminum plate





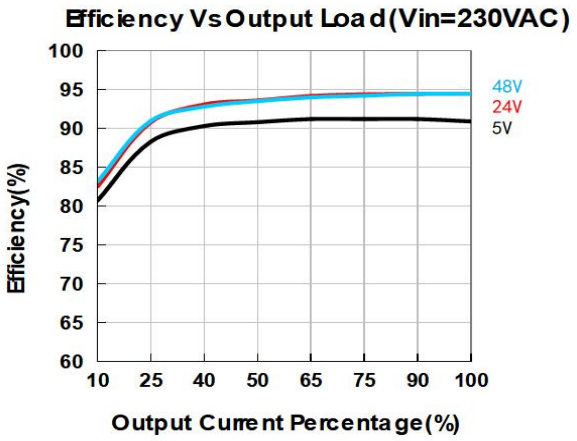
Without aluminum plate

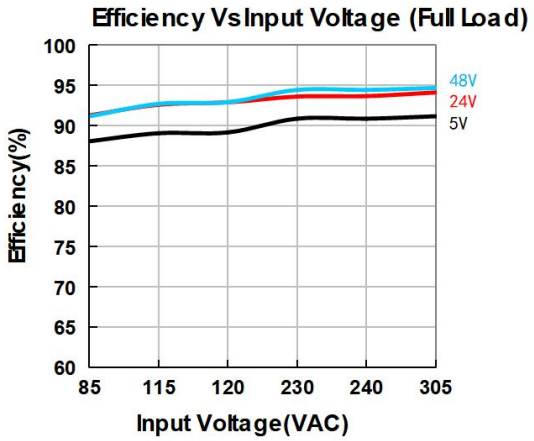




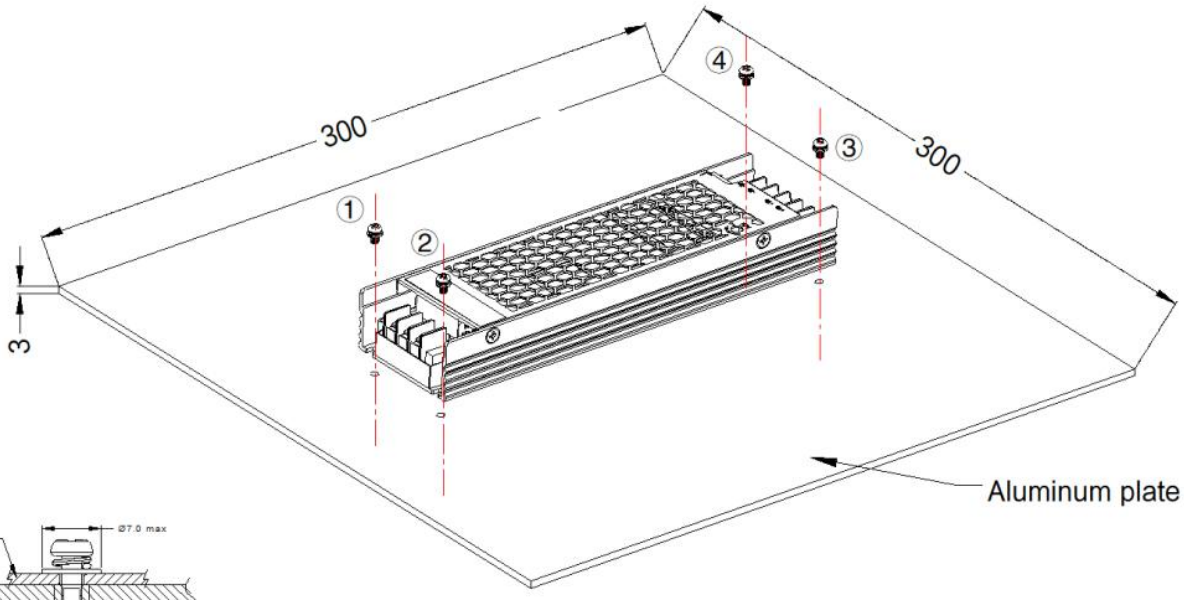
Note: 1. With an AC input voltage between 85 -100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;

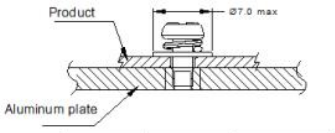
2. This product is suitable for applications using natural air cooling.





Installation Diagram



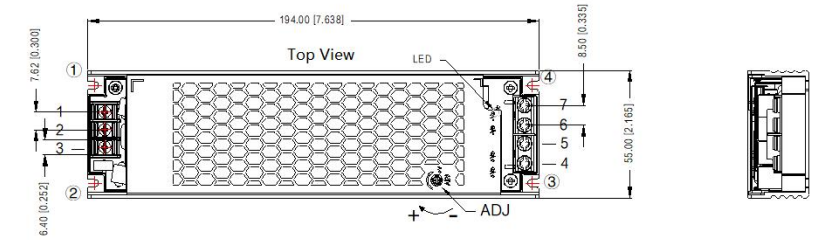


Position	Screw Spec.	Torque(max)
① - ④	M3	0.4N · m

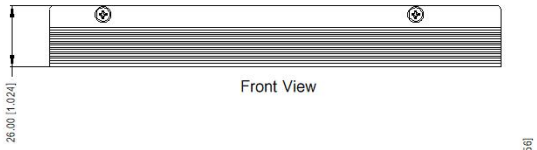
Note: 1. In order to meet the "Derating Curve", the product testing must be installed onto an aluminum plate. The size of the suggested aluminum plate is shown as above. And for optimizing thermal performance, it is necessary to apply thermal grease on the bottom of the product.
2. It is suggested to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

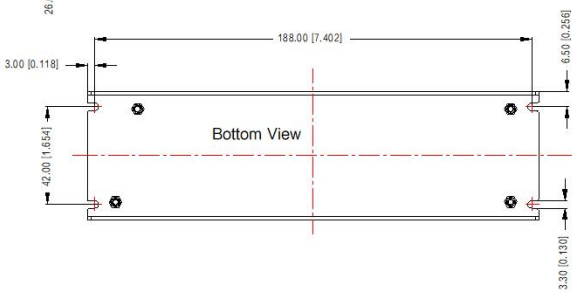
Dimensions and Recommended

THIRD ANGLE PROJECTION



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





Connector wires range

Pro. No	Input connector	Output connector (single wire)	Output connector (double wires)	Output connector (double wires) Pic.
5V	22-14AWG	No suggested	14-12AWG	-Vo double wires +Vo double wires
12V		14-12AWG	18-12AWG	
24/36/48V		18-12AWG	20-12AWG	
Screw/torque	M3.0, Max 0.5N · m	M3.5, Max 0.8N · m		

Note:
Unit: mm[inch]
ADJ: Output voltage adjustable resistor
General tolerances: ± 1.00[± 0.039]

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;

11.The image certification marks are for reference only; please refer to the selection table for actual specifications. Certification is based on the physical mark or packaging label.