AEFUH350-xx(-C/-YW) Series

DESCRIPTIONS

350W, 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 +85℃
- 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 EN60335

APPLICATIONS

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

Selection Guide

Certification	Part No.*	Rated Output Power (W)*	Nominal Output Voltage and Current (Vo/Io)*	Output Voltage Adjustable Range (V)	Efficiency at 230VAC (%) Typ.	Room Temperature Max. Capacitive Load (uF)	Low Temperature Max. Capacitive Load (uF)
EN/BS EN	AEFUH350-05	300	5V/60A	4.5-5.5	90	12000	6000
UL/EN/ BS EN/IEC	AEFUH350-12	350.4	12V/29.2A	11.4-12.6	92	10000	4000
UL/EN/ BS EN/IEC	AEFUH350-24	350.4	24V/14.6A	22.8-25.2	94	8000	3000
EN/BS EN/UL	AEFUH350-28	350	28V/12.5A	26.6-29.4	94	7000	2500
EN/BS EN	AEFUH350-36	351	36V/9.75A	34.2-37.8	94	6000	2000
UL/EN/ BS EN	AEFUH350-48	350.4	48V/7.32A	45.6-50.4	94	4000	1000
EN/BS EN	AEFUH350-54	349.92	54V/6.48A	51.3-56.7	94	3000	800

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. *12V、 24V output product with optional salt-spray proof at terminal: AEFUH350-xx-YW
4. 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		--	--	4	A
		230VAC		--	--	2	
	Inrush Current	115VAC	Cold start	--	16.7	--	
		230VAC		--	42.3	--	
	Power Factor	115VAC	Full load	0.98	--	--	--
		230VAC		0.98	--	--	
	Leakage Current	240VAC		< 0.5mA			
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range	5V	--	±2	--	%
			12V/24V/28V/36V/48V/54V	--	±1	--	
	Line Regulation	Rated load	5V	--	±0.5	--	
			12V/24V/28V/36V/48V/54V	--	±0.3	--	
	Load Regulation	0% - 100% load	5V	--	±1	--	
			12V/28V/24V/36V/48V/54V	--	±0.5	--	
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value), 25℃	5V/12V	--	--	200	mV
			24V/28V/36V/48V/54V	--	--	240	
	Temperature Coefficient			--	±0.03	--	%/℃
	Minimum Load			0	--	--	%
	Hold-up Time	Room temperature, full load, 115VAC/230VAC		12	--	--	ms
	Short Circuit Protection			Hiccup, continuous, self-recover			
	Over-current Protection	Room temperature, high temperature		110% - 200% Io, the protection lasts for 1s, self-recovery after the abnormality is removed			
		Low temperature		>110% Io, the protection lasts for 1s, self-recovery after the abnormality is removed			
	Over-voltage Protection	5V		≤6.5VDC (Output voltage hiccup)			

			12V			≤15.6VDC (Output voltage hiccup)			
			24V			≤31.2VDC (Output voltage hiccup)			
			28V			≤35.0VDC (Output voltage hiccup)			
			36V			≤46.8VDC (Output voltage hiccup)			
			48V			≤62.4VDC (Output voltage hiccup)			
	Over-voltage Protection		54V			≤63VDC (Output voltage hiccup)			
	Over-temperature Protection					Output voltage turn off, self-recovery after the temperature drops			
General Specifications	Isolation Test	Input - ⏚	Electric strength test for 1min., leakage current <5mA			2000	--	--	VAC
		Input - output				4000	--	--	
		Output - ⏚				1500	--	--	
	Insulation Resistance	Input - ⏚	Ta= 25 ± 5℃ Relative humidity: < 95%RH, no condensation Test voltage: 500VDC			50	--	--	MΩ
		Input - output				50	--	--	
		Output - ⏚				50	--	--	
	Operating Temperature					-40	--	+85	℃
	Storage Temperature					-40	--	+85	
	Operating Humidity		Non-condensing			10	--	95	%RH
	Storage Humidity		Non-condensing			20	--	90	
	Power Derating	Operating temperature derating	With aluminum plate*		+55℃ to +85℃	2.33	--	--	%/℃
			Without aluminum plate	230VAC	Others	+55℃ to +70℃	3.33	--	--
						+70℃ to +85℃	1.33	--	--
					5V	+55℃ to +70℃	2	--	--
						+70℃ to +85℃	1.33	--	--
				110VAC		+55℃ to +85℃	1.33	--	--
		Input voltage derating	85 - 100VAC				2	--	--	%/VAC
	Safety Class						CLASS I			
	MTBF		MIL-HDBK-217F@25℃				≥300,000 h			
Mechanical Specifications	Case Material		Metal (AL6063, SGCC)						
	Dimensions		220.00mm x 62.00mm x 31.00mm						
	Weight		680g (Typ.)						
	Cooling Method		Free air convection						

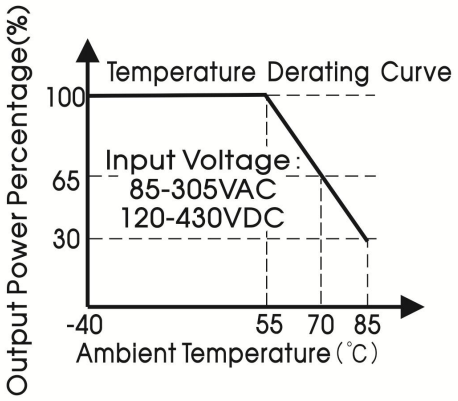
Note: 1.*The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.
2.*In order to optimize the heat dissipation performance, when the aluminum plate is used for auxiliary heat dissipation, please note: 1. The size of the aluminum plate is 450mm × 450mm × 3mm; 2. The surface of the aluminum plate mast be coated with thermal grease; 3. The product must be tightly attached to the aluminum plate.

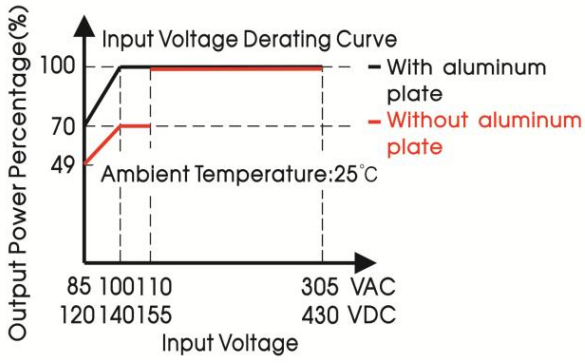
Electromagnetic Compatibility (EMC)

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 ±6KV/Air ±8KV	perf. Criteria A
		RS	IEC/EN61000-4-3 10V/m	perf. Criteria A
		EFT	IEC/EN61000-4-4 ±2KV	perf. Criteria A
		Surge	IEC/EN61000-4-5 line to line ±2KV/line to PE ± 4KV	perf. Criteria A
		CS	IEC/EN61000-4-6 10 Vr.m.s	perf. Criteria A
		Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11 0%, 70%	perf. Criteria B

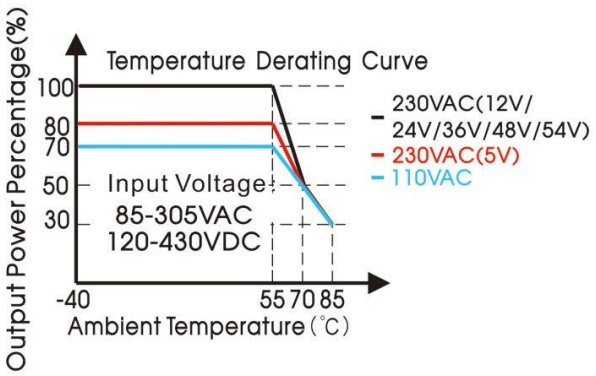
Characteristic Curve

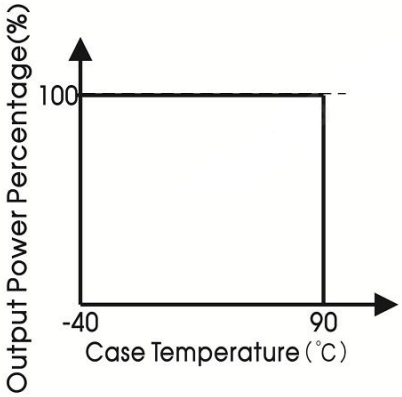
With aluminum plate





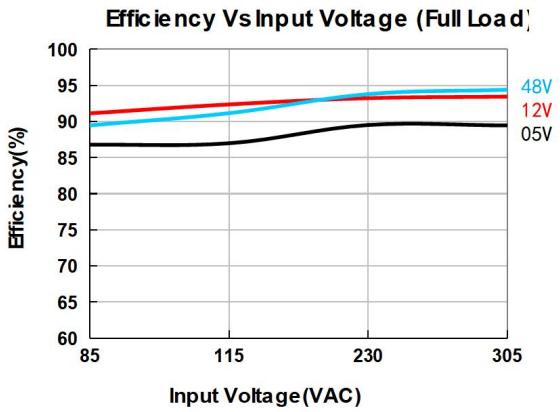
Without aluminum plate

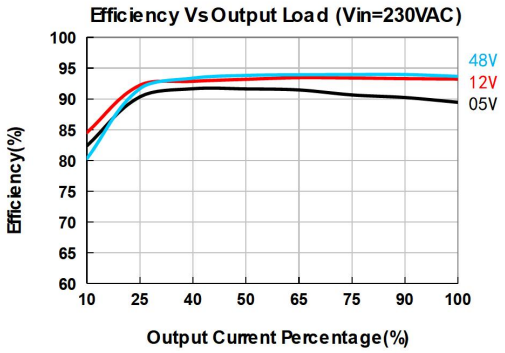




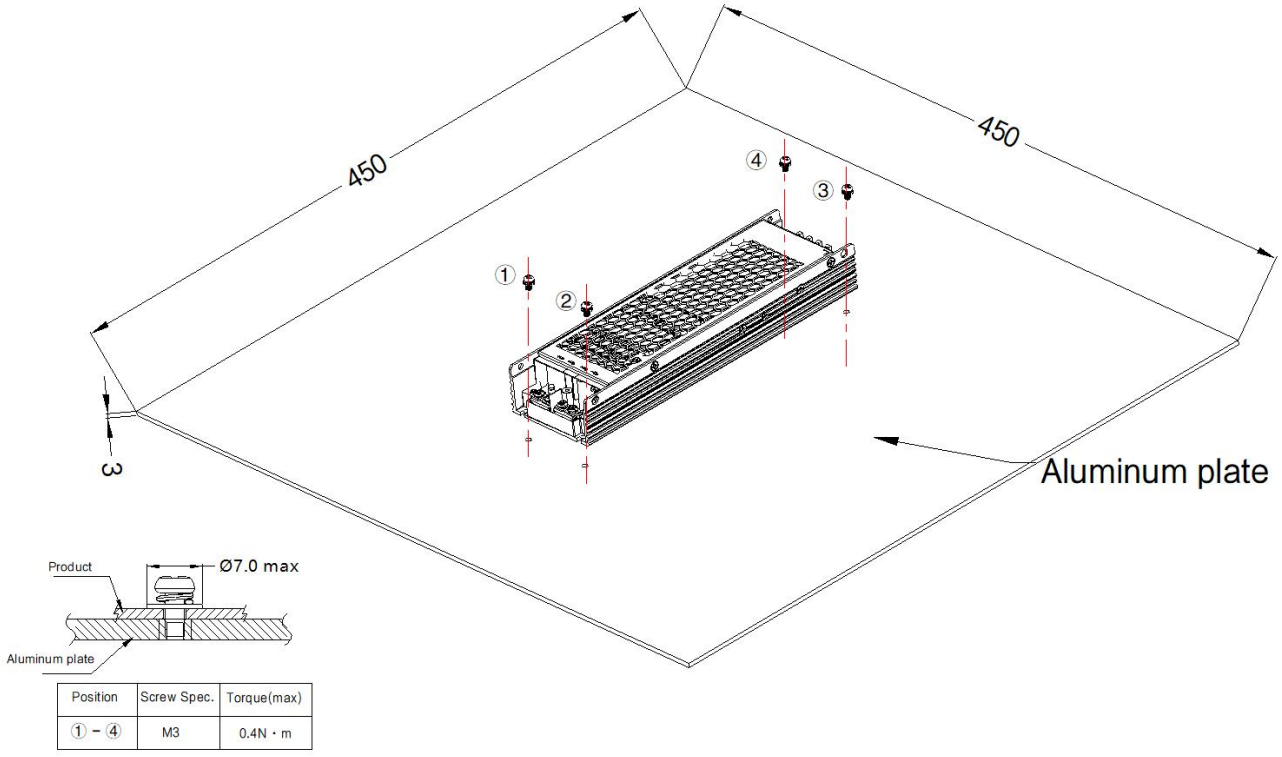
Note: 1. With an AC input voltage between 85-100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;

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





Installation Diagram

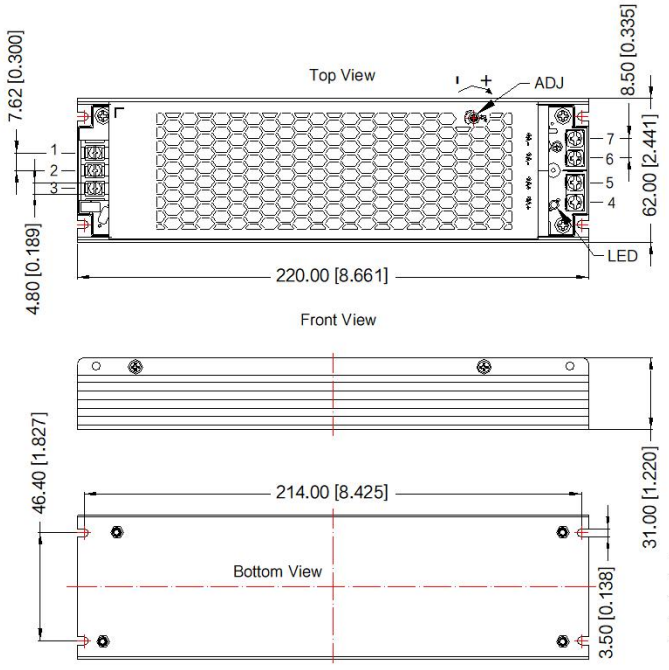


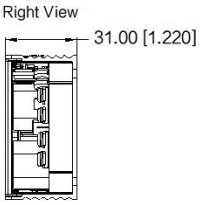
Position	Screw Spec.	Torque(max)
① ~ ④	M3	0.4N・m

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.

AEFUH350-xx(-C/-YW) Dimensions and Recommended

THIRD ANGLE PROJECTION





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

Connector wires range

Pro. No	Input connector	Output connector	Output connector (double wires) Pic.
5V	22-14AWG	12AWG	-Vo double wires / +Vo double wires
12V		16-12AWG	
24/28/30.5/36/48/55V		18-12AWG	
Screw/torque	M3.0, Max 0.5N · m	M3.5, Max 0.8N · m	

Note:
Unit: mm[inch]
ADJ: Output 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.If product involves multi-brand materials and there are differences in color etc, please refer to the standards of each manufacturer;
8.Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
9.The power supply is considered a component which will be installed into a terminal equipment.
10.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.