DESCRIPTIONS

200W, AC-DC Converter



RoHS

Report EN62368-1

Report BS EN62368-1

UL62368-1

FEATURES

- Universal 85 - 305VAC or 120 - 430VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating temperature range: -30℃ to +70℃
- Built-in active PFC function
- High I/O isolation test voltage up to 4000VAC
- Output short circuit, over-current, over-voltage, over-temperature protection
- LED indicator for power on
- Emissions meets CISPR32/EN55032 CLASS B
- Start-up delay time less than 5 seconds at -30℃
- Operating altitude up to 5000m
- Safety according to IEC62368, EN60335

APPLICATIONS

- Industrial Control
- LED
- street light control
- 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.
EN/BS EN	AEF200-12	200.4	12V/16.7A	11.4-12.6	88.0	4000
	AEF200-15	201.0	15V/13.4A	14.25-15.75	88.0	3300
EN/BS EN/UL	AEF200-24	201.6	24V/8.4A	22.8-25.2	90.0	1500
EN/BS EN	AEF200-36		36V/5.6A	34.2-37.8	89.0	1000
	AEF200-48		48V/4.2A	45.6-50.4	89.0	470

Note: 1.*AEF200-15-C, AEF200-24-C use suffix "C" for terminal with protective cover.
2.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	AC input		85	--	305	VAC
		DC input		120	--	430	VDC
	Input Voltage Frequency			47	--	63	Hz
	Input Current	115VAC		--	2.5	3.0	A
		230VAC		--	1.3	2.0	
	Input Inrush Current	115VAC	Cold start	--	35	--	
		230VAC		--	65	--	
	Power Factor	115VAC	At full load	--	0.98	--	--
		230VAC		--	0.95	--	
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range		--	±1	--	%
	Line Regulation	Rated load		--	±0.5	--	
	Load Regulation	230VAC, 0% - 100% load		--	±0.5	--	
	Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V/15V/24V	--	150	--	mV
			36V/48V	--	240	--	
	Stand-by Power Consumption	Normal temperature, 230VAC		--	0.75	1.0	W
	Temperature Coefficient	0℃ to 45℃		--	±0.03	--	%/℃
	Minimum Load			0	--	--	%
	Hold-up Time	Normal temperature, full Load		--	8	--	ms
	Short Circuit Protection	Recover time <5s after the short circuit disappear.		Hiccup, continuous, self-recover			
	Over-current Protection*			105%-200% Io, self-recover			
	Over-voltage Protection	12V		≤16.2V	(Output voltage turn off, re-power on for recover)		
		15V		≤21.8V			
		24V		≤32.4V			
		36V		≤46.0V			
		48V		≤60.0V			
	Over-temperature Protection*	Over-temperature protection activation		--	--	85	℃
		Over-temperature protection deactivation		55	--	--	
General Specifications	Isolation Test	Input - ⏚	36V: Electric Strength Test for 1min., leakage current <10mA Others: Electric Strength Test for 1min., leakage current <3mA	2000	--	--	VAC
		Input - output		4000	--	--	
		Output - ⏚		500	--	--	
	Insulation Resistance	Input - ⏚	500VDC, 25±5℃, Humidity < 95%RH, Non-condensing	100	--	--	MΩ
		Input - output		100	--	--	
		Output - ⏚		100	--	--	
	Operating Temperature			-30	--	+70	℃
	Storage Temperature			-40	--	+85	

	Operating Humidity	Non-condensing		20	--	90	%RH
	Storage Humidity			10	--	95	
	Power Derating	Operating temperature derating	+45℃ to +70℃	2.0	--	--	%/℃
		Input voltage derating	85VAC -100VAC@50Hz	2.0	--	--	%/VAC
			85VAC -100VAC@60Hz	1.67	--	--	
			120VDC - 140VDC	1.25	--	--	%/VDC
	Safety Class			CLASS I			
	MTBF	MIL-HDBK-217F@25℃		>250,000 h			
Mechanical Specifications	Case Material	Metal (AL1100)					
	Dimensions	179.00 x 99.00 x 30.00 mm					
	Weight	475.0g (Typ.)					
	Cooling Method	Free air convection					

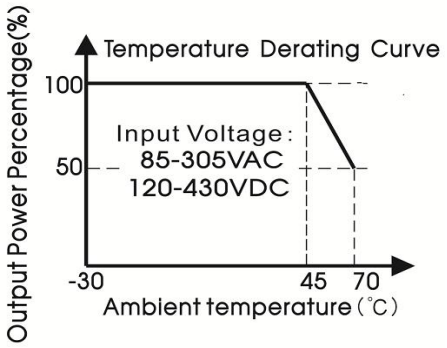
Note: 1.*The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor,
2.*Over-current Protection: Test at rated output voltage, lo is rated output current load.
3.*Over-temperature Protection needs to be tested under rated full load conditions.

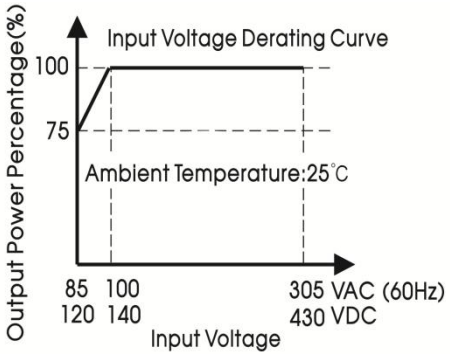
Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32/EN55032 CLASS B	
		RE	CISPR32/EN55032 CLASS B	
		Harmonic current	IEC/EN61000-3-2 CLASS A and CLASS D	
		Voltage flicker	IEC/EN61000-3-3	
	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 ±2KV/±4KV	perf. Criteria A
		CS	IEC/EN61000-4-6 10 Vr.m.s	perf. Criteria A
		DIP	IEC/EN61000-4-11 0%, 70%	perf. Criteria B

Note: 1.* One magnetic bead(nickel-zinc ferrite)should be coupled with the output load line during CE/RE testing;
2.* The power supply is considerated a component as part of system, all EMC items are tested on a metal plate (L x W x H, 450mm x 450mm x 3mm). Power supply should be combined with final equipment for EMC confirmation.

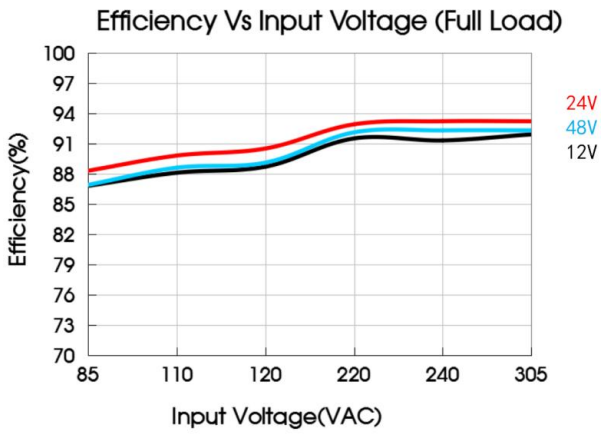
Characteristic Curve

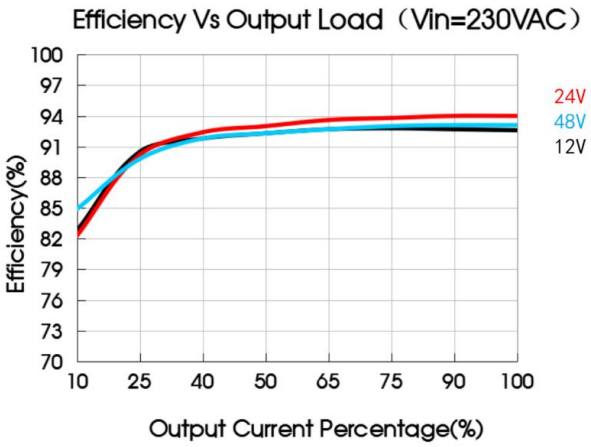




Note: 1. With an AC input voltage between 85-100VAC and a DC input between 120-140VDC, the output power must be derated as per the temperature derating curves;

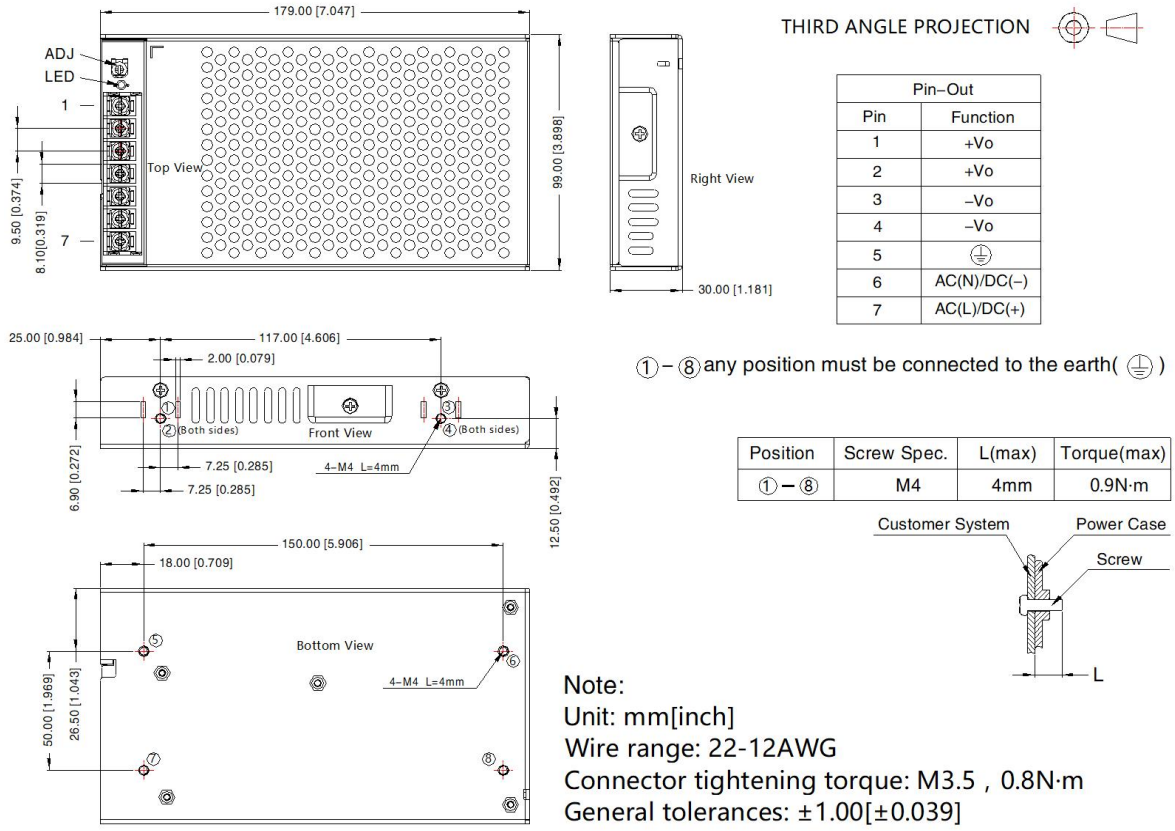
2. This product is suitable for applications using natural air cooling;





Dimensions and Recommended Layout

AEF200-xx Series



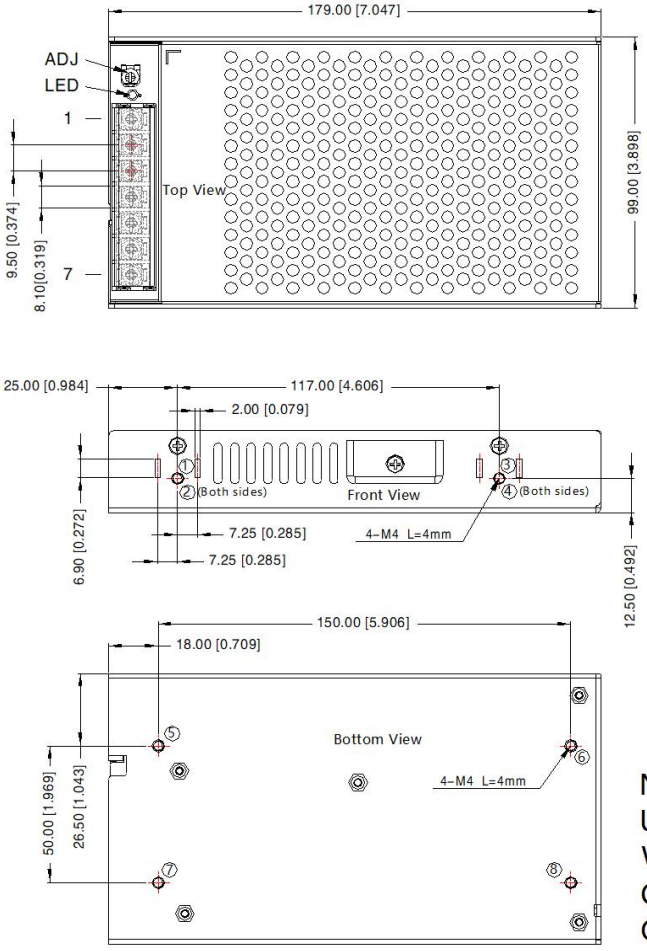
Pin-Out	
Pin	Function
1	+Vo
2	+Vo
3	-Vo
4	-Vo
5	⏚
6	AC(N)/DC(-)
7	AC(L)/DC(+)

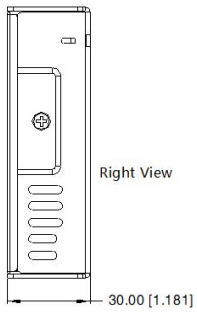
①-⑧ any position must be connected to the earth(⏚)

Position	Screw Spec.	L(max)	Torque(max)
①-⑧	M4	4mm	0.9N·m

Note:
Unit: mm[inch]
Wire range: 22-12AWG
Connector tightening torque: M3.5 , 0.8N·m
General tolerances: ±1.00[±0.039]

AEF200-xx-C Series



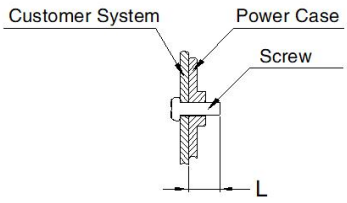


THIRD ANGLE PROJECTION

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

①–⑧ any position must be connected to the earth(⏚)

Position	Screw Spec.	L(max)	Torque(max)
①–⑧	M4	4mm	0.9N·m



Note:
Unit: mm[inch]
Wire range: 22-12AWG
Connector tightening torque: M3.5 , 0.8N·m
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 ambient temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m;
3. 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;
4. Products are related to laws and regulations: see "Features" and "EMC";
5. The out case needs to be connected to PE (⏚) of system when the terminal equipment in operating.
6. 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.