AEF150-xx Series

DESCRIPTIONS

150W, AC-DC Converter



RoHS

CE Report UKCA Report

EN62368-1 BS EN62368-1

FEATURES

- Universal 85 - 305V AC 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 (Built-in constant current limiting circuit), over-voltage, over-temperature protection
- Remote ON-OFF control
- Over-voltage class III (designed to meet EN61558)
- Operating altitude up to 5000m

APPLICATIONS

- Industrial
- 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.	Max. Capacitive Load (μF)
EN/BS EN	AEF150-12	150	12V/12.5A	10.2-13.8	85.5	5000
	AEF150-15	150	15V/10A	13.5-18	86	5000
	AEF150-24	151.2	24V/6.3A	21.6-28.8	87	5000
	AEF150-48	153.6	48V/3.2A	45.6-55.2	88	3000

Note: 1.*Use suffix " C" for terminal with protective cover and suffix " Q" for conformal coating.
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	85VAC		--	--	2.5	A
		115VAC		--	--	2.0	
		230VAC		--	--	1.0	
	Inrush Current	115VAC	Cold Start	--	--	30	
		230VAC		--	--	45	
	Power Factor	115VAC	At full Load	0.97	0.99	--	--
		230VAC		0.91	0.98	--	
	Leakage Current	277VAC		< 2mA			
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full Load Range	12V/15V	--	±2	--	%
			24V/48V	--	±1	--	
	Line Regulation	Rated Load		--	±0.5	--	
	Load Regulation	0% - 100% load		--	±0.5	--	
	Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V/15V	--	100	--	mV
			24V	--	150	--	
			48V	--	250	--	
	Temperature Coefficient			--	±0.05	--	%/℃
	Minimum Load			0	--	--	%
	Hold-up Time	230VAC		16	--	--	ms
	Short Circuit Protection	Recovery time <3s after the short circuit disappear.		Constant current, continuous, self-recover			
	Over-current Protection			105%-150% Io, constant current mode, self-recover			
	Over-voltage Protection	12V		≤16.8V (output voltage turn off, re-power on for recover)			
		15V		≤24.5V (output voltage turn off, re-power on for recover)			
		24V		≤33.6V (output voltage turn off, re-power on for recover)			
		48V		≤60V (output voltage turn off, re-power on for recover)			
	Over-temperature Protection*	Over-temperature Protection Activation		--	--	85	℃
		Over-temperature Protection Deactivation		50	--	--	
	Remote Control	Open or 0~0.8VDC Power ON		0	--	0.8	VDC
		4-10VDC Power OFF		4	--	10	

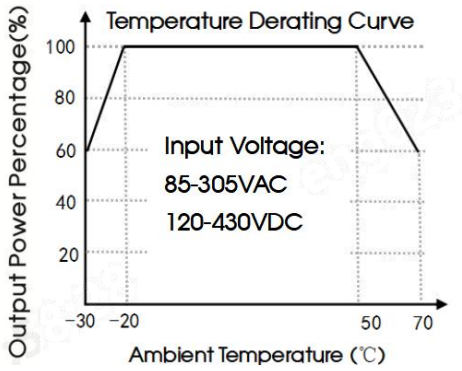
General Specifications	Isolation	Input - ⏚	Electric Strength Test for 1min., leakage current <10mA	2000	--	--	VAC
		Input - output		4000	--	--	
		Output - ⏚	Electric Strength Test for 1min., leakage current <5mA	500	--	--	
	Insulation Resistance	Input - ⏚	500VDC, 25±5℃, Humidity < 95%RH, non-condensing 500VDC	100	--	--	MΩ
		Input - output		100	--	--	
		Output - ⏚		100	--	--	
	Operating Temperature			-30	--	+70	℃
	Storage Temperature			-40	--	+85	
	Storage Humidity		Non-condensing	10	--	95	%RH
	Power Derating		+50℃ to +70℃	2	--	--	%/℃
			-30℃ to -20℃	4	--	--	
			85VAC-100VAC	1.3	--	--	%/VAC
			2000m-5000m	5	--	--	%/Km
	Altitude			--	--	5000	m
	Safety Class			CLASS I			
	MTBF		MIL-HDBK-217F@25℃	> 300,000 h			
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)				
	Dimensions		179.00 x 99.00 x 30.00mm				
	Weight		500g (Typ.)				
	Cooling Method		Free air convection				

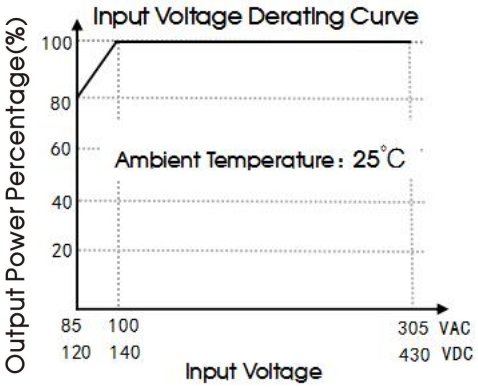
Note:1. *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor;
2. *Over-temperature Protection needs to be tested under rated full load conditions.

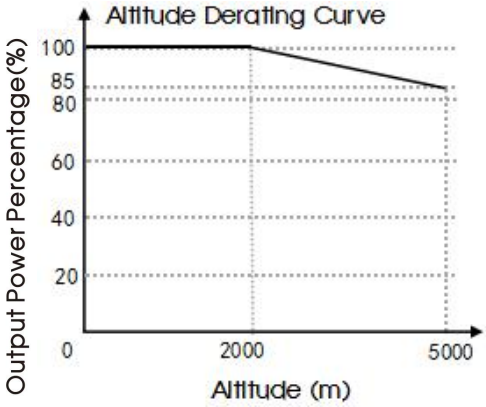
Electromagnetic Compatibility (EMC)

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 B
		EFT	IEC/EN 61000-4-4 ±2KV	perf. Criteria A
		Surge	IEC/EN 61000-4-5 ±1KV/±2KV	perf. Criteria A
		CS	IEC/EN61000-4-6 10 Vr.m.s	perf. Criteria A
		DIP (AC input)	IEC/EN61000-4-11 0%, 70%	perf. Criteria B

Characteristic Curve

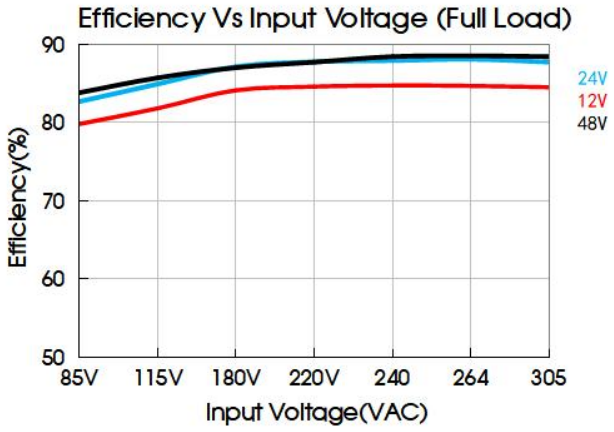


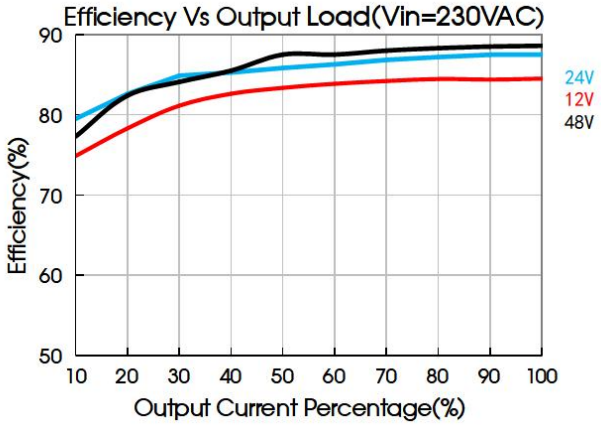




Note: 1. With an AC input voltage between 85-100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;

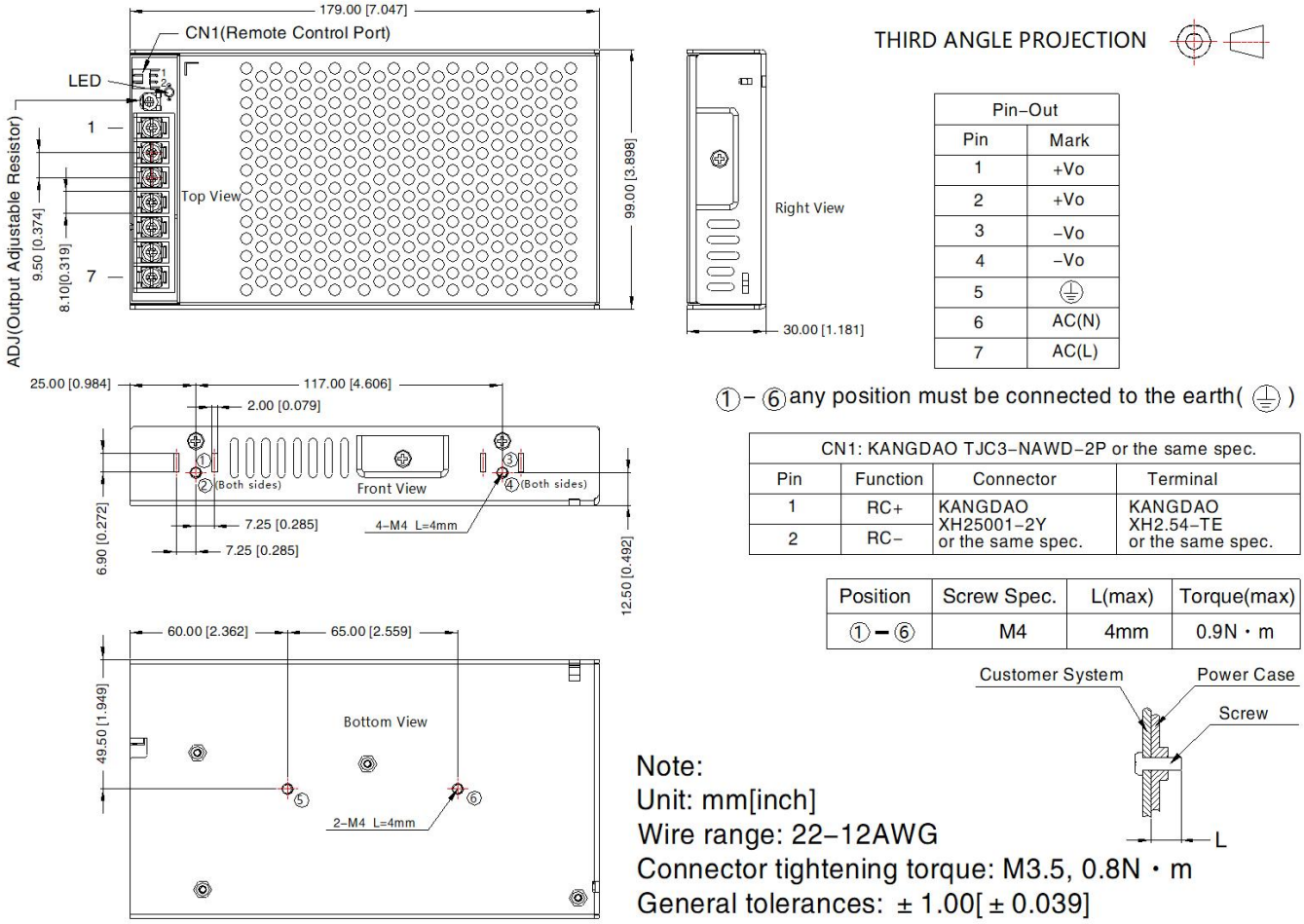
2. This product is suitable for applications using natural air cooling





Dimensions and Recommended

AEF150-xx (-C/-Q) Series



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

①- ⑥any position must be connected to the earth(⏚)

CN1: KANGDAO TJC3-NAWD-2P or the same spec.			
Pin	Function	Connector	Terminal
1	RC+	KANGDAO XH25001-2Y or the same spec.	KANGDAO XH2.54-TE or the same spec.
2	RC-		

Position	Screw Spec.	L(max)	Torque(max)
①－⑥	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.All index testing methods in this datasheet are based on our company corporate standards;

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.Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;

7.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.

8.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.