DESCRIPTIONS

750W, AC-DC Converter



RoHS

3 Years Warranty

CE Report UKCA Report

EN62368-1 BS EN62368-1

FEATURES

- Universal 80 - 277VAC or 110 - 390VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40℃ to +70℃
- High efficiency up to 94%
- Active PFC, PF≥0.98
- Remote sense compensation, remote ON/OFF function
- 150% peak load output for 1 second
- Provide 5V/2A Standby Output
- Output short circuit, over-current, over-voltage, over-temperature protection
- Operating altitude up to 5000m
- Double side conformal coating
- Safety according to IEC/UL62368, IEC/EN/UL60601, GB4943

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)	Remote Sense Compensation (mV)	Standby (Vo/Io)*
EN/BS EN	AEF750-2B-12	750	12V/62.5A	11.4 - 12.6	92	50000	500	5V/2A
	AEF750-2B-15		15V/50A	14.2 - 15.8				
	AEF750-2B-24		24V /31.3A	22.8 - 25.2	94			
	AEF750-2B-27		27V /27.8A	25.6 - 28.4				
	AEF750-2B-48		48V/15.7A	45.6 - 50.4				

Note: 1. *Under any conditions, the total power of the product should not exceed the 750W rated power, and the output current cannot exceed the rated output current;

2. *Standby power: provide 5V/2A independent output, it is recommended to use with the main circuit.

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	--	240	VAC
		AC input		80	--	277	
		DC input		110	--	390	VDC
	Input Voltage Frequency	Rated input (Certified voltage)		50	--	60	Hz
		AC input		47	--	63	
	Input Current	Rated input (Certified voltage)		--	--	10	A
		115VAC		--	--	8	
		230VAC		--	--	4	
	Inrush Current	115VAC	Cold start	--	--	20	
		230VAC		--	--	40	
	Power Factor	115VAC		--	0.98	--	--
		230VAC		--	0.98	--	
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range	12V/15V/24V/27V/48V	--	±1	--	%
			5V Standby	--	±2	--	
	Line Regulation	Rated load	12V/15V/24V/27V/48V	--	±0.5	--	
			5V Standby	--	±1	--	
	Load Regulation	0% - 100% load	12V/15V/24V/27V/48V	--	±0.5	--	
			5V Standby	--	±1	--	
	Minimum Load			0	--	--	A
	Stand-by Power Consumption	Room temperature, 230VAC, RC+/RC- add +5V signal		--	--	1.5	W
	Ripple & Noise*	20MHz bandwidth (peak-peak value)	12V/15V/24V/27V/48V	--	--	150	mV
			5V Standby	--	--	100	
	Temperature Coefficient			--	±0.03	--	%/℃
	Hold-up Time	115VAC/230VAC, rated load		--	16	--	ms
	Short Circuit Protection	Recovery time <10s after the short circuit disappear.		Hiccup mode, constant current works 1s, turn off 10s, continuous, self-recover			
	Over-current Protection	230VAC, rated load	Normal temperature, high temperature	110% - 200% Io, hiccup, self-recover			
			Low temperature	≥110% full load after derating, hiccup, self-recover			
	Over-voltage Protection	12V		≤16.5V (Hiccup, self-recover)			
		15V		≤20.5V (Hiccup, self-recover)			
		24V		≤32V (Hiccup, self-recover)			
		27V		≤36V (Hiccup, self-recover)			
		48V		< 60V (Hiccup, self-recover)			

Output Specifications	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 <10mA	2000	--	--	VAC
		Input - output		4000	--	--	
		Output - ⏚		1500	--	--	
	Insulation Resistance	Input - ⏚	Ambient temperature: 25 ± 5℃ Relative humidity: < 95%RH, no condensation Test voltage: 500VDC	100	--	--	MΩ
		Input - output			--	--	
		Output - ⏚			--	--	
	Isolation level	Input - output		2 × MOPP			
		Input - ⏚		1 × MOPP			
		Output - ⏚		1 × MOPP			
	Operating Temperature			-40	--	70	℃
	Storage Temperature			-40	--	85	
	Storage Humidity		Non-condensing	10	--	95	%RH
	Operating Humidity			20	--	95	
	Power Derating	Operating temperature derating	+50℃ to +70℃	2.5	--	--	%/℃
		Input voltage derating	80VAC-85VAC	2.0	--	--	%/VAC
			85VAC-100VAC	1.33	--	--	
	Leakage Current	240VAC, 60Hz	Touch current	< 0.1mA			
			Earth leakage current	< 0.5mA			
	Safety Class			CLASS I			
	MTBF	MIL-HDBK-217F@25℃		≥720,000 h			
	Warranty	Ambient temperature: <50℃		5 years			
Environmental Characteristics	Item	Operating Conditions		Standard			
	High and Low Temperature Working	+70℃, -40℃		GB2423.1, IEC60068-2-1			
	Sinusoidal Vibration	10 - 500Hz, 2g, three directions of X, Y, Z axis		GB2423.10, IEC60068-2-6			
	Low Temperature Storage	-40℃		GB2423.1, IEC60068-2-1			
	High Temperature Storage	+85℃		GB2423.2, IEC60068-2-2			
	High Temperature Aging	+50℃		GB2423.2, IEC60068-2-2			
	Normal Temperature Aging	+25℃		GB2423.1, IEC60068-2-1			
	Temperature Shock	-40℃ to +85℃		GB2423.22, IEC60068-2-14			
	Temperature Cycle	-25℃ to +70℃		GB2423.22, IEC60068-2-14			
	Hot and Humid	+85℃, 85%RH		GB2423.50, IEC60068-2-67			
	Packaging Drop	1m, one corner, three edges and six sides		GB2423.8, IEC68-2-32			
Mechanical Specifications	Case Material	Metal (AL5052, SGCC)					
	Dimensions	187.50mm × 127.00mm × 40.50mm					
	Weight	950g (Typ.)					
	Cooling Method	Forced air convection					

Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor,

Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE (Input port)	CISPR32 EN55032 150K - 30MHz	CLASS B
		RE	CISPR32 EN55032 30MHz - 1GHz	CLASS B
		Harmonic current	IEC/EN61000-3-2	CLASS A and CLASS D
	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 ±4KV	
		Surge (Input port)	IEC/EN61000-4-5 line to line ±2KV/line to ground ±4KV	
		MS	IEC/EN61000-4-8 30A/m	
		CS	IEC/EN61000-4-6 0.15 - 80MHz 20Vr.m.s	
		Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11 0%,70%	perf. Criteria B

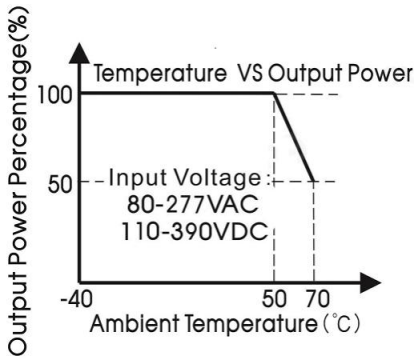
Note: *perf. Criteria:

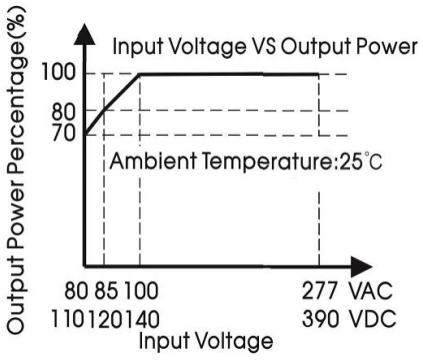
A: The equipment shall continue to operate as intended without operator intervention;

B: After the test, the equipment shall continue to operate as intended without operator intervention;

C: Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions.

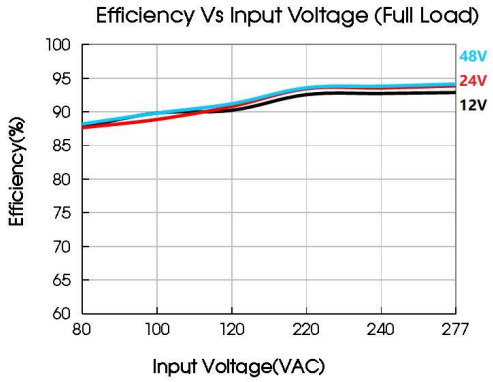
Characteristic Curve

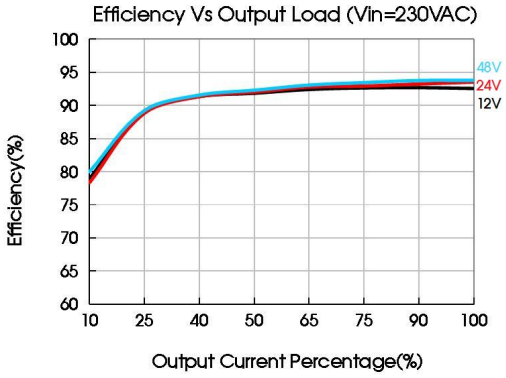




Note: 1. With an AC input voltage between 80 -100VAC and a DC input between 110-140VDC the output power must be derated as per the temperature derating curves;

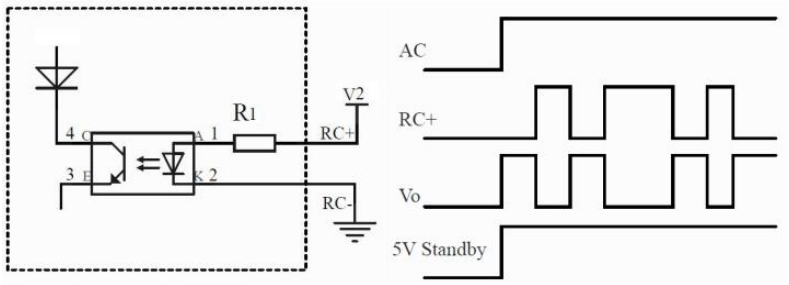
2. This product is suitable for applications using natural air cooling.





Dimensions and Recommended

1. Remote ON/OFF

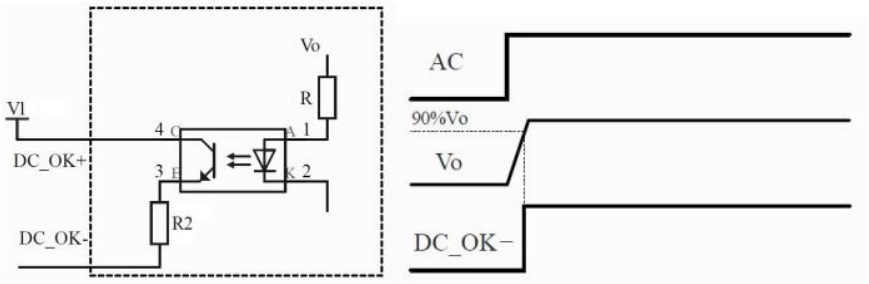


V2 (User side)	4V-10V

Note: 1. When the product is working normally, apply voltage (5-15V) to RC+ and RC- to trigger the remote ON/OFF function, and the output voltage will be off. Withdraw the voltage, the output voltage will be re-established;

2. 5V standby power supply is not controlled by remote ON/OFF function.

2. DC_OK

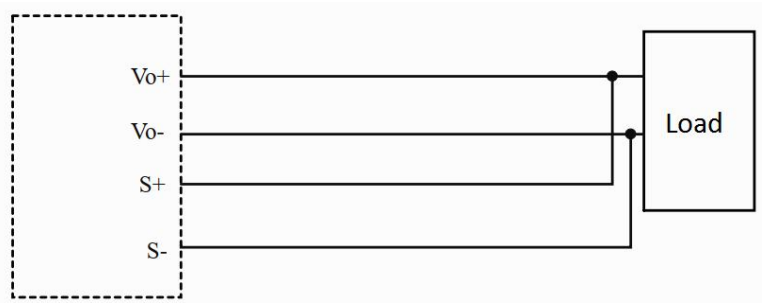


V1 (User side)	4V-10V

Note: 1. When the output voltage of the product reaches 90% of the rated value, DC_OK+ will be connected to DC_OK- ;

2. It is recommended that users apply a certain voltage between DC_OK+ and DC_OK- to detect the signal.

3. Remote Sense Compensation

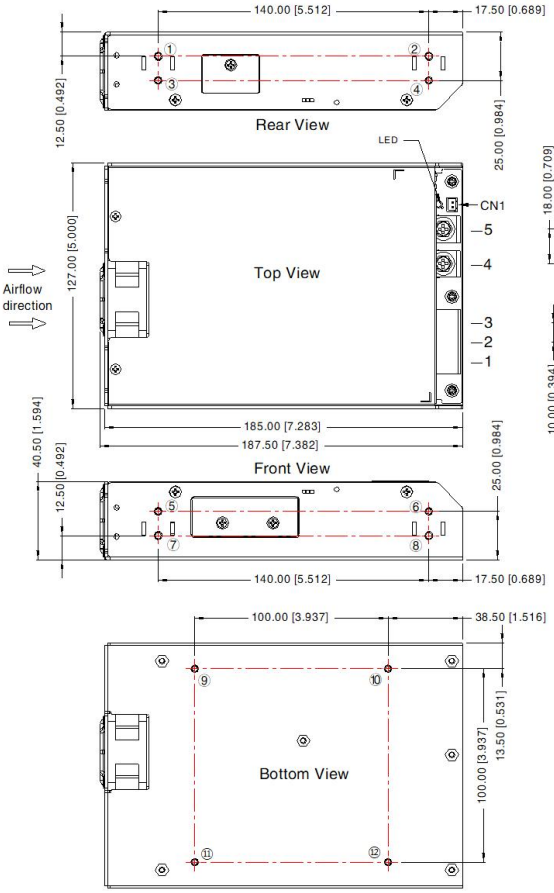


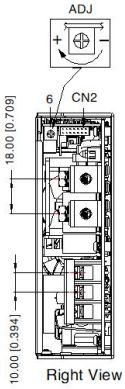
Note: 1. The left side represents the internal schematic diagram of the product, the right side represents the customer system;

2. Twisted pair wires are needed for S+/S-;

3. If the Pin14 terminal function is used for long-term matching, please glue to secure it.

Dimensions and Recommended



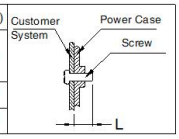


THIRD ANGLE PROJECTION

Pin-Out	
Pin	Mark
1	AC(L)
2	AC(N)
3	⏚
4	-Vo
5	+Vo
6	ADJ Output adjustable resistor

CN1	Pin-Out	
	Pin	Mark
—2 —1	1	5VSB_RTN
	2	+5VSB
Customer Connector	Connector: JST XHP-2 or equivalent Terminal: JST SXH-001T-P0.6 or equivalent	

Position	Screw Spec.	L(max)	Torque(max)
①-②	M4	4mm	0.9N・m
⑦-⑧			
③-⑥	M3	4mm	0.4N・m
⑨-⑫	M3	3mm	0.4N・m



CN2	Pin-Out				Customer Connector
	Pin	Mark	Pin	Mark	
8 14 1 7	1	-S	8	+S	Connector: JST PHDR-14VS or equivalent Terminal: JST SPHD-002T-P0.5 or equivalent
	2	NC	9	NC	
	3	DC_OK-	10	DC_OK+	
	4	+5VSB	11	5VSB_RTN	
	5	RC+	12	RC-	
	6	+5VSB	13	+5VSB	
	7	5VSB_RTN	14	5VSB_RTN	

Note:
Unit: mm[inch]
Input pin1,2,3 wire range: 18-14AWG
Input connector tightening torque: M4, Max 0.9N.m
Output pin4,5 wire range: 12V/15V: 8-6AWG
24V/27V: 12-8AWG
48V: 16-8AWG
Output connector tightening torque: M5, Max 1.6N.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 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. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. The out case needs to be connected to PE (⏚) of system when the terminal equipment in operating;
8. The output voltage can be adjusted by the ADJ, clockwise to increase;
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.
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.