Typical Features

- ◆ Wide input voltage range: 250-1500VDC
- ◆ No load power consumption≤2W
- ◆ Transfer efficiency (typ. 90%)
- ◆ Switching frequency: 100KHz
- ◆ Protection 1: Input reverse connection protection, undervoltage protection, over-temperature protection
- ◆ Protection 2: Output over voltage, over current, short circuit
- ◆ Input-Output Isolation voltage: 4000VAC
- ◆ Design reference UL1741, EN/IEC/BS EN62109 certification standards
- ◆ Meet the 5000m altitude requirement

Application Field

BK200-800SXXGB1N6 Series *------ is a small size, high efficiency module power supply provided by Aipu to customers. The design of this product refers to UL1741, EN/IEC/BS EN62109 certification standards. It has the advantages of wide input voltage range, low ripple, low temperature rise, low power consumption, high efficiency, high reliability, high safety isolation, etc. This series of products are widely used in photovoltaic power generation, home appliance energy storage, industrial control and other fields, and it has multiple protection functions to improve the safety performance of the power supply and its load under abnormal working conditions of the power supply. When the product is used in an environment with relatively harsh electromagnetic compatibility, please refer to the application circuit provided by our company.*

Typical Product List

Certificate	Part No.	Output Specifications			Max Capacitive Load (MAX)	Ripple & Noise 20MHz (MAX)	Full load efficiency, 800VDC (Typ.)
		Power	Voltage	Current	u F	mVp-p	%
		(W)	Vo(V)	Io(m A)			
-	BK200-800S24GB1N6	200	24	8330	5000	300	91

Note 1: The typical output efficiency is based on that product is full loaded and burned-in after half an hour.

Note 2:The fluctuation range of full load efficiency(%,TYP) is ±2%, full load output efficiency= total output power/module's input power.

Note 3: Ripple & Noise is tested by twisted pair method, please refer to details at back.

Note 4: Due to limited space, the above is only a partial list of products, if you need products other than the list, please contact our sales department.

Input Specification

Item	Operating Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	DC Input	250	800	1500	VDC
Input Current	300VDC	-	-	1.2	A
	850VDC	-	-	0.45	
Surge Current	850VDC	-	-	150	
	1500VDC	-	-	280	
No-load Power Consumption	1500VDC	-	-	2	W

Input under voltage Protection	Protection start	110	-	240	VDC
	Protection release	120	-	250	
Recommended Value of External Fuse	--	6A/1500VDC			
Input Anti-reverse Connection	--	Available			
Hot Plug	--	N/A			

Output Specification

Item		Operating Condition		Min.	Typ.	Max.	Unit
Voltage Accuracy		Full input voltage range, any load	Vo	-	±1.0	±2.0	%
Line regulation		Nominal load	Vo	-	±1.0	-	
Load regulation		Nominal input voltage, 0%-100% load	Vo	-	±1.0	-	
Minimum Load		Single Output		0	-	-	%
Turn-on Delay Time		Input 800VDC		-	-	2000	mS
Power-off Holding Time		Input 800VDC		-	20	-	mS
Dynamic Response	Overshoot range	25%~50%~25% 50%~75%~50%		-5.0	-	+5.0	%
	Recovery time			-5.0	-	+5.0	mS
Output Overshoot		Full input voltage range		≤10%Vo			%
Short Circuit Protection				Continuous short circuit, self-recovery			Hiccup
Drift Coefficient		-		-	±0.02%	-	%/℃
Over Current Protection		Full input voltage range		≥110% Io, self recovery			Hiccup
Over Voltage Protection		Output 24VDC		≤32			V

General Specification

Item		Operating Condition	Min.	Typ.	Max.	Unit
Switching Frequency		-	-	65	-	KHz
Operating Temperature		--	-40	--	+70	
		Need to perform temperature derating based on the temperature derating curve. Derating according to “Derating curve” at back				
Storage Temperature		-	-40	--	+85	
Soldering Temperature		Wave-soldering	260±4℃, time 5-10S			
		Manual-welding	360±8℃, time 4-7S			
Storage Humidity		-	-	-	95	%RH
Isolation Voltage	I/P-O/P	Test 1min, leakage current≤10mA	4000	-	-	VAC
	Input-PE		4000	-	-	
	Output-PE		4000	-	-	

Insulation resistance	I/P-O/P	@500VDC	100	-	-	MΩ
	Input-PE		100	-	-	
	Output-PE		100	-	-	
Safety Standard		-	Design reference UL1714, EN/IEC/BS EN62109-1			
Vibration		-	10-55Hz,10G,30Min,alongX,Y,Z			
Safety Class		-	CLASS II			
MTBF		-	MIL-HDBK-217F 25℃＞300,000H			

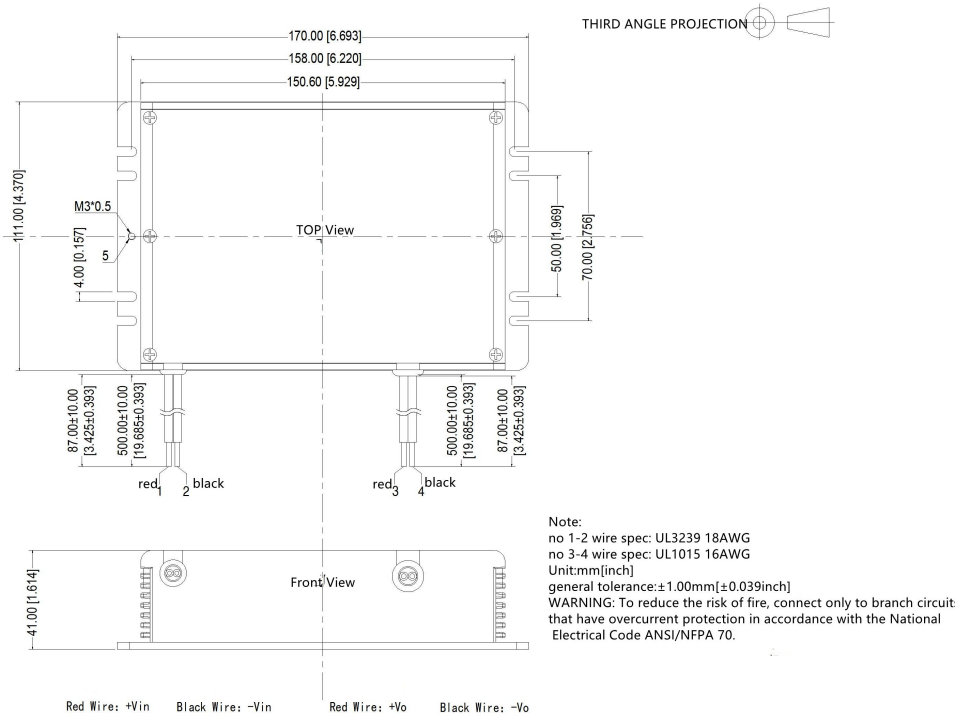
Physical Specifications

Case Material		Metal
Dimension	Horizontal packaging	168.0X111.2X42.5mm
Weight		950g (TYP)
Cooling Method		Free air convention

EMC Characteristics

Total Item		Sub Item	Test Standard	Class
EMC	EMI	CE	CISPR32/EN55032	CLASS A
		RE	CISPR32/EN55032	CLASS A
	EMS	RS	IEC/EN61000-4-3	10V/m Perf.Criteria A
		CS	IEC/EN61000-4-6	10Vr.m.s Perf.Criteria A
		ESD	IEC/EN61000-4-2	±6KV / Air ±8KV Perf.Criteria B
		Surge	IEC/EN61000-4-5	line to line ±1KV / line to ground ±2KV Perf.Criteria B
		EFT	IEC/EN61000-4-4	±4KV Perf.Criteria B

Dimension and Pin-Function



Packing code	L x W x H	
G	168.0X111.2X42.5mm	6.614X4.378X1.673inch

Pin-Function

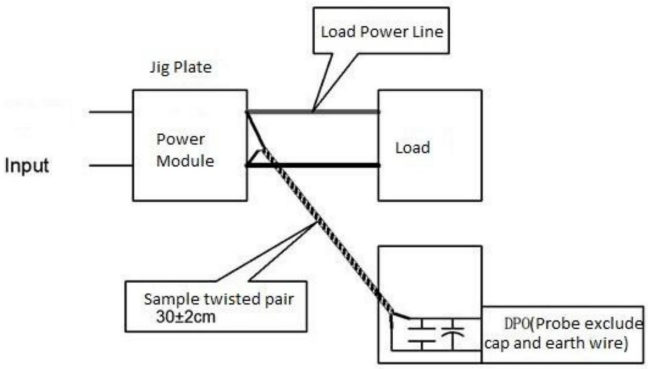
Pin	1	2	3	4	5
Single	+VIN	-VIN	+V0	-V0	PE

Ripple& Noise Test: (Twisted Pair Method 20MHZ bandwidth)

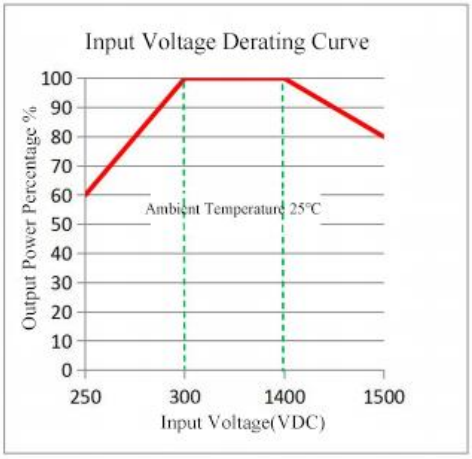
Test Method:

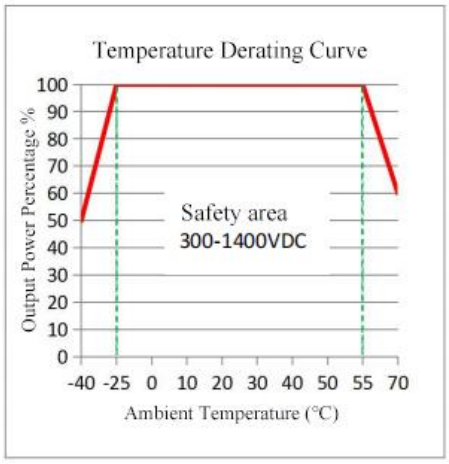
(1) 12# twisted pair to connect, Oscilloscope bandwidth set as 20MHz, 100M bandwidth probe, terminated with 0.1uF polypropylene capacitor and 10uF high frequency low resistance electrolytic capacitor in parallel, oscilloscope set as Sample pattern.

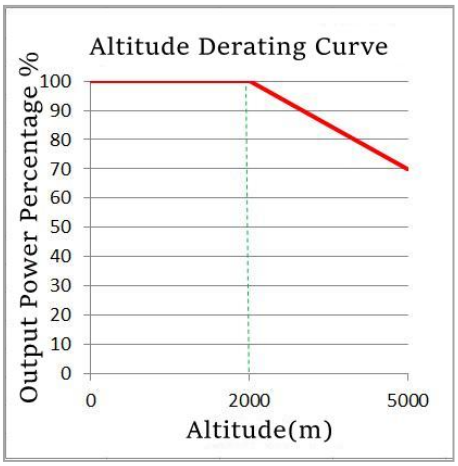
(2) Input terminal connect to power supply, output terminal connect to electronic load through jig plate, Use 30cm±2 cm sampling line, Power line selected from corresponding diameter wire with insulation according to the flow of output current.



Product Characteristic Curve





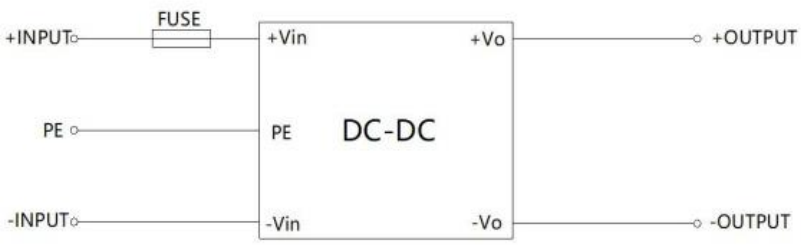


Note 1: When input voltage is 250~300VDC/1400~1500VDC, the voltage needs to be derated based on the input voltage derating curve.

Note 2: This product is suitable for use in a natural wind cooling environment. If it is used in a closed environment, please contact our company.

Design Reference Application

1. Typical application circuit



Recommended Circuit 1

Part No.	FUSE
BK200-800S24GB1N6	6A/1500VD, necessary

Note:

1. The product should be used within the specification range, otherwise it will cause permanent damage to the product;
2. The product input terminal must be connected to a fuse;
3. If the product works below the minimum required load, it cannot be guaranteed that the product performance meets all the performance indicators in this manual;
4. If the product works beyond the product load range, it cannot be guaranteed that the product performance meets all the performance indicators in this manual;
5. Unless otherwise specified, the above data are measured at Ta=25℃, humidity<75%, input nominal voltage and output rated load (pure resistance load);
6. All the above index test methods are based on our company's standards;
7. The above are the performance indicators of the product models listed in this manual. Some indicators of non-standard model products will exceed the above requirements. For specific circumstances, please contact our technical personnel directly;
8. Our company can provide product customization;
9. Product specifications are subject to change without prior notice. Please pay attention to the latest manual published on our official website.

Guangzhou Aipu Electron Technology Co., Ltd
Address: Building 4, HEDY Park, No.63, Punan Road, Huangpu Dist, Guangzhou, China.
Tel: 86-20-84206763 Fax: 86-20-84206762 HOTLINE: 400-889-8821
E-mail: sales@aipu-elec.com Website: https://www.aipupower.com

