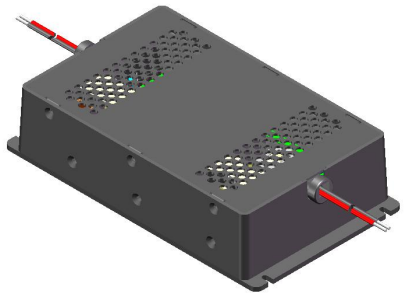
Typical Features

- Wide input voltage range: 300-1500VDC
- No load power consumption ≤3W
- Efficiency 92%(Typ.)
- Switching Frequency: 100KHz
- Input anti-reverse, under voltage, over temperature protections
- Output over-voltage, over-current, short circuit protections
- Isolation Voltage：4000Vac
- Conform to UL1741/CSA-C22.2 No.107.1, IEC/EN62109
- Altitude during operation 5000m Max



Application Field

BK350-800SXXG1N6 *Series* ----- *a compact size, high efficiency module power supply provided by Aipu. This series products conform to IEC/EN62109 &UL1741/CSA-C22.2, have the multi-advantages of wide input voltage range, low ripple, low temperature rise, low standby power consumption, high efficiency& reliability, safety isolated and good EMC performance. They can be used in solar power system, commercial energy storage, industry control and others new energy fields.*

Typical Product List

Certification	Part No.	Output Specifications			Max. Capacitive Load	Ripple& Noise 20MHz（MAX）	Efficiency @Full Loads 800VDC(Typ.)
		Power	Voltage	Current			
		（W）	Vo（V）	Io（mA）	u F	mVp-p	%
-	BK350-800S24G1N6	350	24	14600	2200	300	92
-	BK350-800S28G1N6	350	28	12500	1500	300	92
-	BK350-800S32G1N6	350	32	10938	1500	300	92

Note 1: The typical value of efficiency is based on the product tested after half an hour burn-in at full load.

Note 2: The full load efficiency should be in ±2% of the typical value in this table. The efficiency is calculated by the way that the full output power is divided by the input power.

Note 3: The ripple and noise are tested by the twisted pair method according to the Ripple & Noise Test Instructions in the manual.

Note 4: Please contact with Aipu sales for other output voltages requirement in this series but not in this table.

Input Specifications

Item	Operating Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	DC Input	300	800	1500	VDC
Input Current	300VDC	-	-	2.00	A
	1100VDC	-	-	0.75	
	1500VDC	-	-	0.60	
Surge Current	1500VDC	-	300	-	
No Load Power	1500VDC	-	-	3	W

Input under voltage protection	Start protection	240	-	295	VDC
	Recovery	265	-	305	
Recommended external fuse	-	6A /1500VDC(Necessary)			
Input anti-inverse connection	-	Support			
Hot Plug	-	Unavailable			

Output Specifications

Item		Operating condition		Min.	Typ.	Max.	Unit
Voltage accuracy		Input full voltage range, any load	Vo	-	±2.0	-	%
Linear regulation		Rated load	Vo	-	±1.0	-	
Load regulation		Input Rated voltage 0%~100%load	Vo	-	±2.0	-	
Minimum load		Single output		0	-	-	%
Turn on delay		Input 800VDC		-	-	5000	mS
Power-off hold up time		Input 800VDC		-	10	-	mS
Dynamic response	Over-shoot	25%~50%~25%		-5.0	-	+5.0	%
	Recovery time	50%~75%~50%		-5.0	-	+5.0	mS
Output overshoot		Input full voltage range		≤10%Vo			%
Short circuit protection				continuous, self-recovery			Hiccup
Drift coefficient		-		-	±0.02%	-	%/℃
Over-current protection		Input full voltage range		≥110% Io, self-recovery			Hiccup
Over-voltage protection		Output 24VDC		⩽35			V
		Output 28VDC		⩽40			
		Output 32VDC		⩽45			

General Specifications

Item		Operating condition	Min.	Typ.	Max.	Unit
Switching frequency		-	-	100	-	KHz
Operating temperature		-	-40	-	+85	℃
		Please refer to the temperature derating curve				
Storage temperature		-	-40	-	+85	
Soldering temperature		Wave soldering	260±4℃，time 5-10S			
		Manual soldering	360±8℃，time 4-7S			
Storage humidity		-	-	-	95	%RH
Isolation voltage	Input-Output	Test one minute，Leak current≤10mA	4000	-	-	VAC
	Input-PE	Test one minute，Leak current≤10mA	4000	-	-	
	Output-PE	Test one minute，Leak current≤10mA	4000	-	-	
Insulation resistance	Input-Output	@ 500VDC	50	-	-	MΩ
Safety standard		-	IEC/EN62109-1, UL1741/CSA-C22.2 No.107.1			
Vibration		-	10-55Hz,10G,30 Min, along X,Y,Z			
Safety level		-	CLASS II			
MTBF		MIL-HDBK-217F@ 25℃	＞300KH			

Physical Characteristics

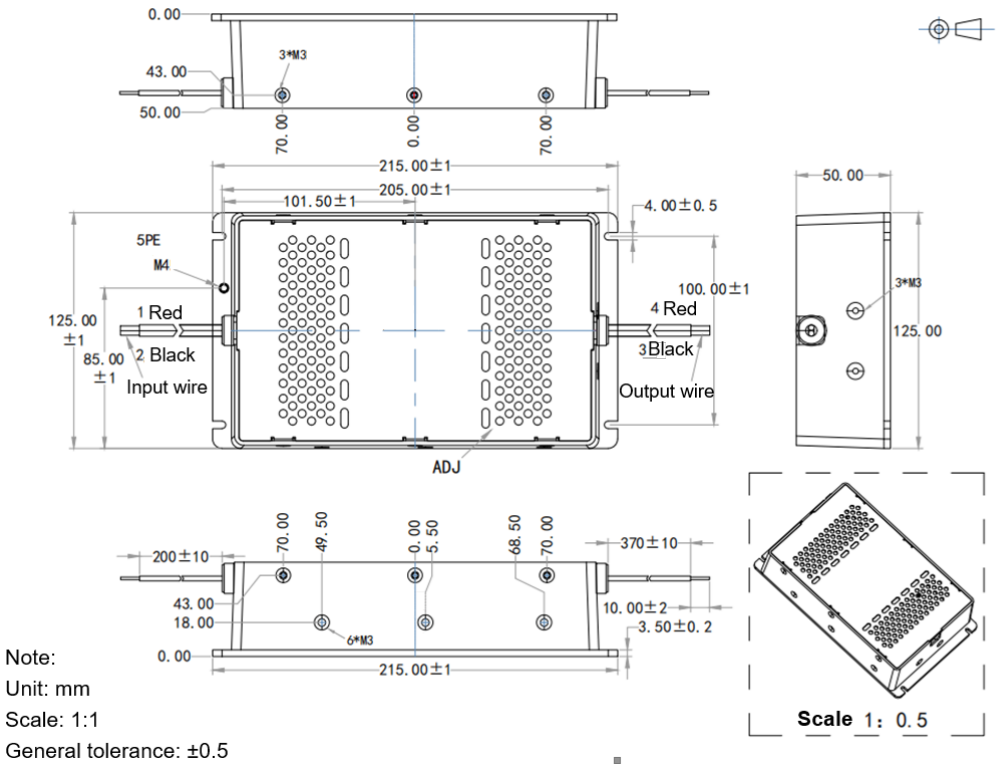
Case Material		Metal
Dimension	Horizontal package	215.00 x 125.00 x 50.00mm
Weight		1500g（TYP）
Cooling Method		Nature air

EMC Performances

Total Item		Sub Item	Testing standard	Performance/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

Mechanical dimensions

Lead wires		Function
Input wire	1 Red	Vin+
	2 Black	Vin-
Output wire	3Black	Vo-
	4 Red	Vo+
Case	5 PE	PE



Note:
Unit: mm
Scale: 1:1
General tolerance: ±0.5

Packaging code	L x W x H	
G1	215.00 x 125.00 x 50.00mm	8.465 × 4.921 × 1.969inch

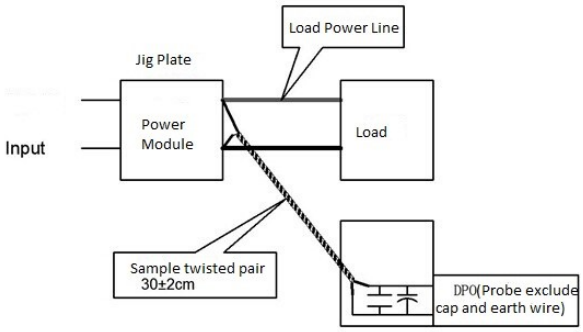
Lead Wire Definition

No.	1(Red)	2(Black)	3(Black)	4(Red)	5(Case)
Single（S）	Vin+	Vin-	Vo-	Vo+	PE

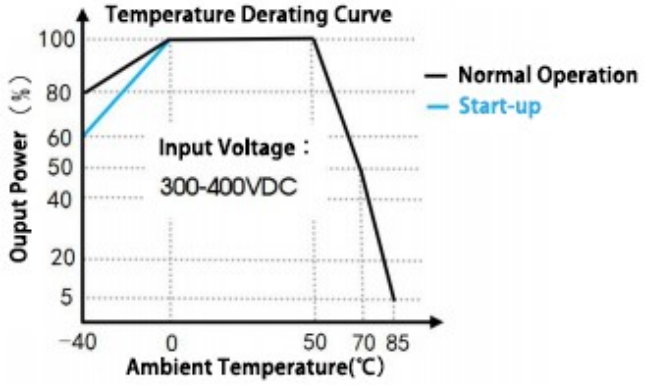
Ripple& Noise Test Instruction: (Twisted Pair Method, 20MHZ bandwidth)

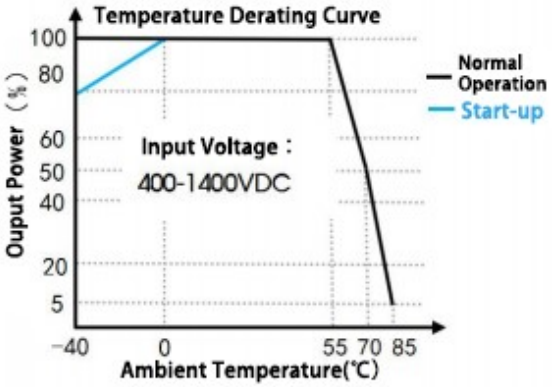
1) Ripple noise test need 12# twisted pair cables, an oscilloscope which bandwidth should be set to 20MHz, 0.1uF polypropylene capacitor and 10uF high-frequency low-resistance electrolytic capacitor are connected in parallel with the probes (100M bandwidth). The oscilloscope should be set on the Sample Mode.

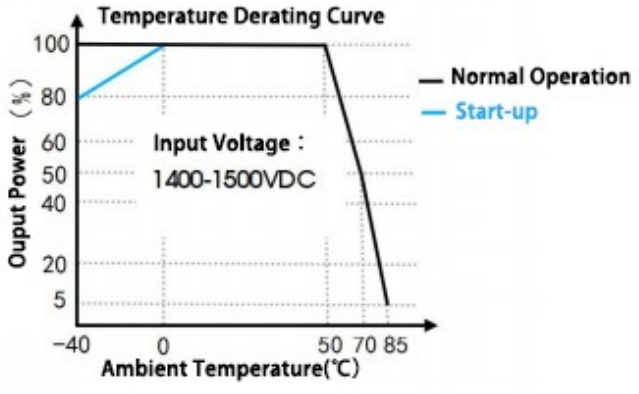
2) The output ripple noise test diagram is shown on the right. The converter output connects to the electronic load by the jig with cables which size should be defined according to the output current value. The twisted pair (length 30cm±2 cm) should be connected in parallel with the load, the location is as close as possible to the output pins or terminals. The test can be started after input power on.

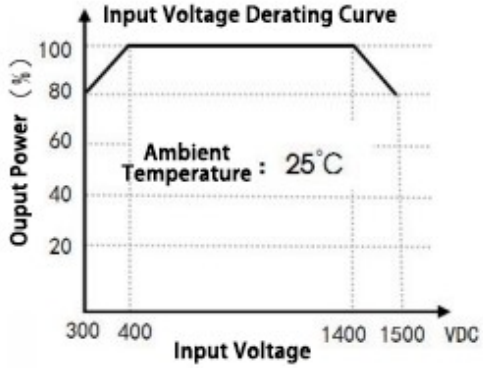


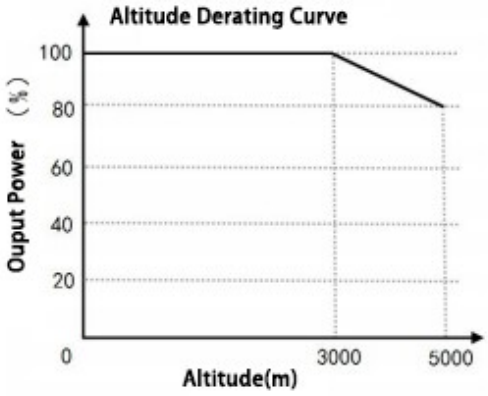
Product Performance Curve









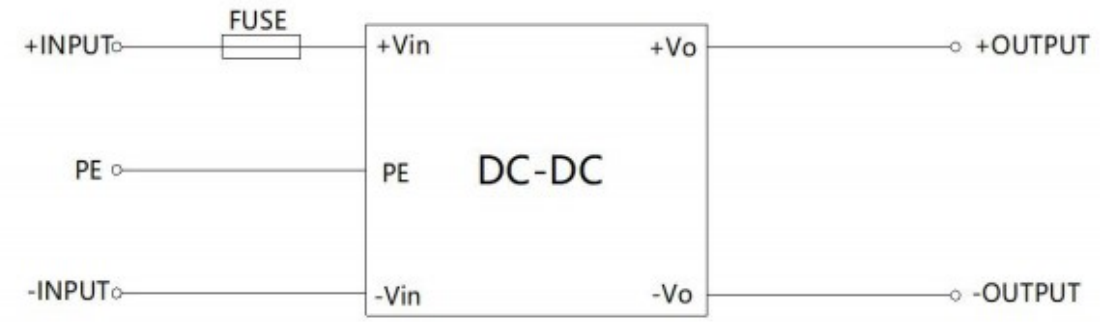


Note 1：The output power should be derated based on the input voltage derating curve at 300 to 400VDC / 1400 to 1500VDC.

Note 2：This product should operate at a natural air condition, please contact us if it need be used at a closed space.

Recommended Circuit for Application

1、Typical Application Circuit



Model	FUSE
BK350-800S24G1N6	6A /1500VDC Necessary

Note：

1. The products should be used according to the specifications in this manual, otherwise it could be permanently damaged.
2. A fuse should be used at input.
3. The product performances in this manual cannot be guaranteed if it works at a lower load than the minimum load defined.
4. The product performances in this manual cannot be guaranteed if it works at over-load condition.
5. Unless otherwise specified, all values or indicators in this manual are tested at Ta=25℃, humidity<75%RH, rated input voltage and rated load (pure resistance load).
6. All values or indicators in this manual had been tested based on Aipupower test specifications.
7. The specifications are specially for the parts listed in this manual, any other non-standard model performances could be out of the specifications. Please contact our technician for specific requirement.
8. Aipupower can provide customization service.

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