

Typical Features

- ◆ Wide input voltage range:85-265VAC/120-380VDC
- ◆ No-load power consumption≤0.2W
- ◆ Transfer efficiency: 86%(typ.)
- ◆ Switching frequency: 65KHz(typ.)
- ◆ Protection: Short Circuit, Over Current, Over Voltage
- ◆ Isolation voltage: 3000VAC
- ◆ Safety Class: CLASS II



Application Field

FA15-220SXXY2---a compact size, high efficient power converter offered by Aipu.

It features universal input voltage, DC and AC dual-use, low ripple, low temperature rise, low power consumption, high efficiency, high reliability, safer isolation. It widely used in industrial, office power and home applications.

Typical Product List

Certificate	Part No.	Output Specification					Max. Capacitive Load (MAX) μF	Ripple & Noise 20MHz (MAX) mVp-p	Efficiency@ Full Load 220Vac (Typical) %
		Power	Voltage 1	Current 1	Voltage 2	Current 2			
		(W)	Vo1 (V)	Io1 (mA)	Vo2 (V)	Io2 (mA)			
-	FA15-220S12Y2	15	12	1250	-	-	2000	200	86
-	FA15-220S15Y2	15	15	1000	-	-	1000	200	87

Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

Note 2: Due to the instrument deviation of the test equipment, the minimum efficiency is -2% of the typical value .

Note 3: The typical output efficiency is based on that product is full loaded and burned-in after half an hour.

Input Specification

Item	Operating Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	AC Input	85	220	265	VAC
	DC Input	120	300	380	VDC
Input Frequency Range	-	47	50	63	Hz
Input Current	115VAC	-	-	0.3	A
	230VAC	-	-	0.2	
Surge Current	115VAC	-	-	16	
	220VAC	-	-	30	
No Load Consumption	Input 115VAC	-	-	0.2	W
	Input 230VAC	-	-		
Leakage Current	-	0.5mA TYP/230VAC/50Hz			
Hot plug	-	Unavailable			



Remote control terminal	-	Unavailable				
Output Specification						
Item	Operating Condition		Min.	Typ.	Max.	Unit
Voltage Accuracy	Full input voltage range Any load	Vo1	-	±2.0	±3.0	%
		Vo2	-	-	-	%
Line Regulation	Nominal Load	Vo1	-	-	±0.5	%
		Vo2	-	-	-	%
Load Regulation	Nominal input Voltage 20%~100% load	Vo1	-	-	±5.0	%
		Vo2	-	-	-	%
Minimum load	Single Output		0	-	-	%
	Positive Negative Dual output common grounded		-	-	-	%
	Positive Negative Dual output isolated		-	-	-	
Turn-on Delay Time	Input 220VAC (full load)		-	1000	-	mS
Power-off Holding Time	Input 220VAC (full load)		-	100	-	mS
Dynamic Response	25%~50%~25%		Overshoot range (%) : ≤±5.0			%
	50%~75%~50%		Recovery time (mS) : ≤5.0			mS
Output Overshooting	Full input voltage range		≤10%Vo			%
Short Circuit Protection			Continuous, Self-recovery			Hiccup
Drift Coefficient	-	-	±0.03%	-	%/°C	
Over Current Protection	Input 220VAC		≥130% Io Self-recovery			Hiccup
Over Voltage Protection	Output 5VDC		≤7.5			VDC
	Output 12VDC		≤18			
	Output 15VDC		≤20			
	Output 24VDC		≤30			
Ripple & Noise	-	-	180	200	mV	
	Note: Ripple& Noise is tested by Twisted Pair Method, details please see Ripple& Noise Test at back.					
General Specifications						
Item	Operating Condition		Min.	Typ.	Max.	Unit
Switching Frequency	-		61	65	73	KHz
Operating Temperature	-		-25	-	+65	°C
	Note: Ripple & Noise is tested by twisted pair method, for details please see(Ripple& Noise Test) at back					

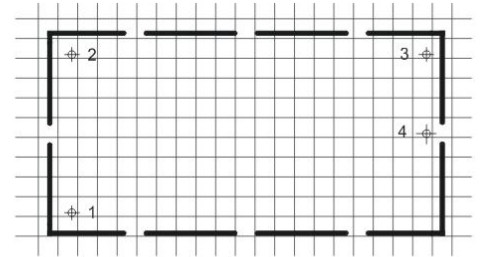
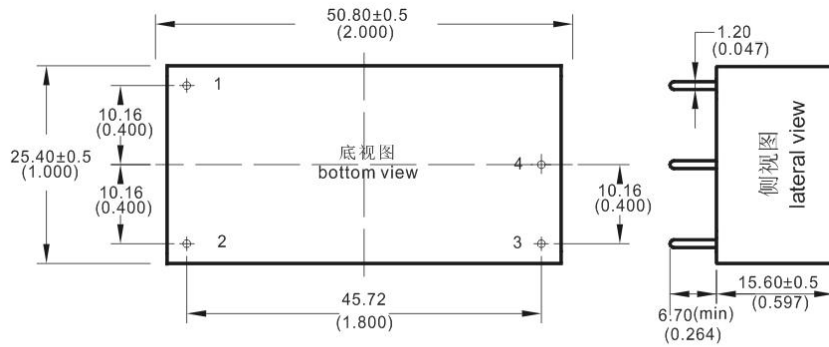
Storage Temperature	-	-40	-	+85	
Soldering Temperature	Wave-soldering	260±4℃, timing 5-10S			
	Manual-soldering	360±8℃, timing 4-7S			
Relative Humidity	-	10	-	90	%RH
Isolation Voltage	Input-Output, Test 1min, leakage current ≤5mA	3000	-	-	VAC
Insulation Resistance	Input-Output@DC500V	100	-	-	MΩ
Vibration	-	10-55Hz, 10G, 30Min, along X, Y, Z			
MTBF	-	MIL-HDBK-217F@25℃ > 300,000H			

EMC Characteristics

EMI	CE	CISPR22/EN55022, CLASS B (see recommended circuit Photo 1)			
	RE	CISPR22/EN55022, CLASS B (see recommended circuit Photo 1)			
EMC	ESD	IEC/EN61000-4-2	±6KV/8KV	Perf.Criteria B	
	RS	IEC/EN61000-4-3	10V/m	Perf.Criteria A	
	EFT	IEC/EN61000-4-4	±1KV	Perf.Criteria B	
		IEC/EN61000-4-4	±2KV (see recommended circuit Photo 1)	Perf.Criteria B	
	Surge	IEC/EN61000-4-5	±1KV	Perf.Criteria B	
		IEC/EN61000-4-5	±2KV (see recommended circuit Photo 1)	Perf.Criteria B	
	CS	IEC/EN61000-4-6	10Vr.m.s	Perf.Criteria A	
	PFMF	IEC/EN61000-4-8	10A/m	Perf.Criteria A	
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	0%-70%	Perf.Criteria B	



Packing Dimension



单位 (Unit): mm
 印刷板俯视图 (Printed board vertical view)
 栅格间距 (lattice spacing): 2.54mm (0.1inch)
 未标注尺寸公差 ±0.25mm
 未注明引脚直径公差 ±0.10mm

未标注尺寸公差 ±0.25mm

Packing Code	L x W x H	
Y2	50.8X25.4X15.6 mm	2.000X1.000X0.614inch

Pin Definition

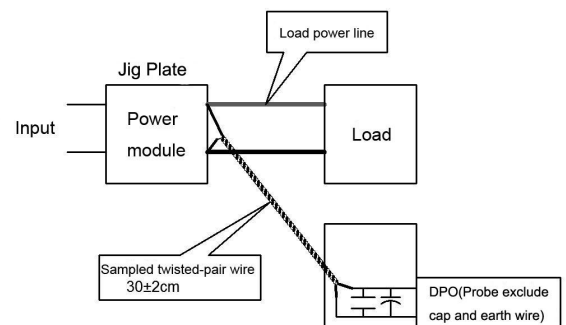
Pin-out	1	2	3	4
	AC (N)	AC (L)	+Vo	-Vo

Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

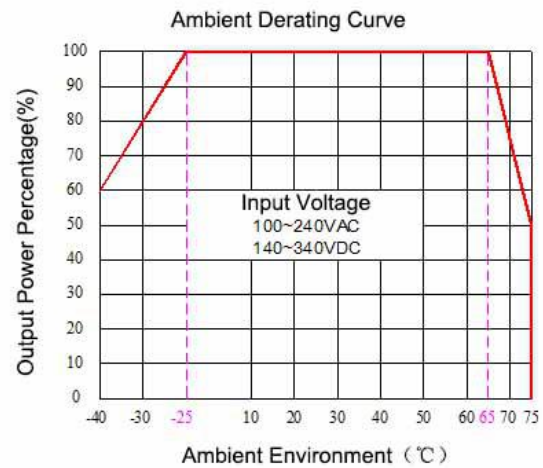
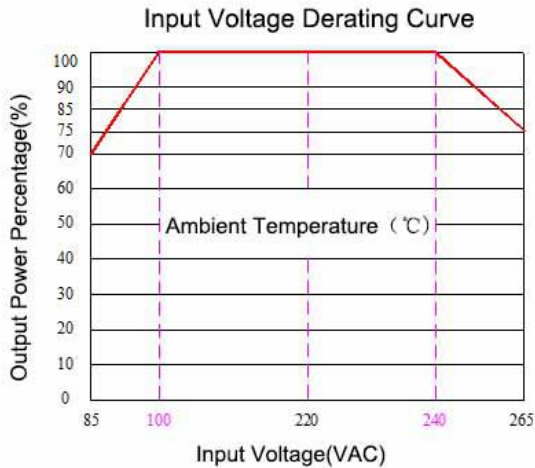
Ripple & Noise Test: (Twisted Pair Method 20MHz bandwidth)

Test Method:

- 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.
- Input terminal connect to power supply, output terminal connect sampling line. Power line selected from corresponding diameter output current.



Product Characteristic Curve



Note

- 1: Input Voltage should be derated base on Input Voltage Derating Curve when it is 85~100VAC/ 240~265VAC/ 120~140VDC/ 340~380VDC.
- 2: Our product is suitable to use under natural air cooling environment, if use it under closed condition, please contact with us.

Application Design Referenced

EMC Solution and Recommend Circuit

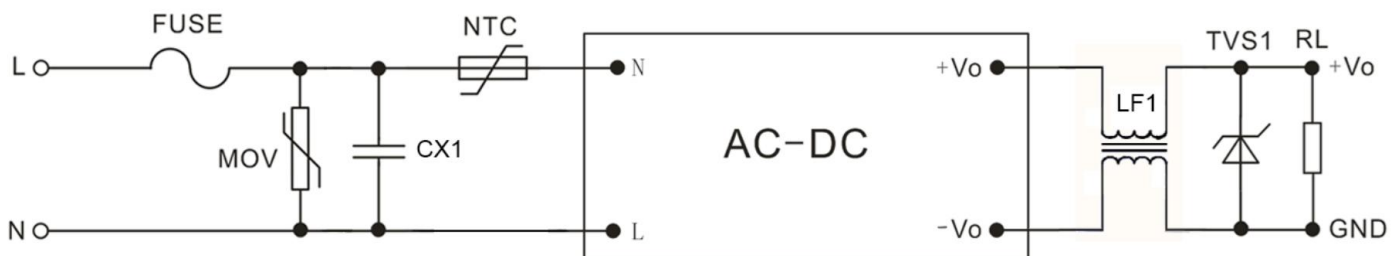


Photo 1

Note:

1. FUSE: necessary, suggest 1A/300V, slow fusing;
 2. NTC1 is thermistors, suggest model:5D-11, to prevent the module from damage when lightning surge.
 3. MOV is piezoresistance,suggest model: 14D561K, to prevent the module from damage when lightning surge.
 4. CX1 is X capacitor,suggest model: 0.22uF,250V;
 5. LF1 is common mode inductance, suggested value above 3mH; TVS1 is to protect the post-stage circuit when the module is abnormal ,recommended 600W type.
- 5V output recommend: SMBJ7.0A, 9V output recommend:SMBJ12.0A, 12V output recommend:SMBJ20A,15V output recommend :SMBJ20.0A, 24V output recommend:SMBJ30.0A, 48V output recommend: SMBJ64A



Note :

- 1.The product should be used under the specification range, otherwise it will cause permanent damage to it.
- 2.Product's input terminal should connect to fuse;
- 3.If the product is not worked under the load range(below the minimum load or beyond the load range), we cannot ensure that the performance of product is in accordance with all the indexes in this manual;
- 4.Unless otherwise specified, data in this datasheet are tested under conditions of $T_a=25^{\circ}\text{C}$, humidity<75% when inputting nominal voltage and outputting rated load(pure resistance load);
- 5.All index testing methods in this datasheet are based on our Company's corporate standards
- 6.The performance indexes of the product models listed in this manual are as above, but some indexes of non-standard model products will exceed the above-mentioned requirements, please directly contact our technician for specific information;
- 7.We can provide customized product service;