



Industrial Power Supply

A-800FKH-Series

Datasheet

A-800FKH-XP

- ◇ Product Category: 800 Watts Industrial Power Supply
- ◇ Version No.: R7.0
- ◇ Issued Date: Aug. 20th, 2024

CHUANGLIAN

★ Product Features

- Universal Input Voltage Range:
90-264VAC/120-370VDC
- Forced cooling of DC fan
- LED power indicator
- PFC>0.95
- With the function of output remote voltage compensation and output ON/OFF control
- All-around Protection Function: SCP, OVP, OCP, OTP
- Output voltage adjustment by potentiometer
- Operating Temperature: -30°C~+75°C (Refer to "Derating Curve")
- 3 Years warranty



💬 Product Description

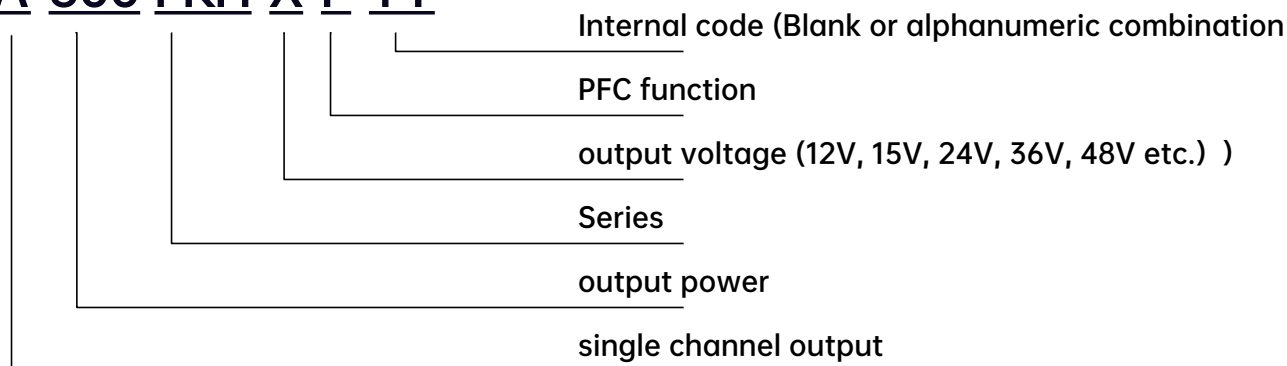
A-800FKH-XP series product is an 800W air-cooled metal case industrial power supply. Adopting universal AC&DC input voltage, the entire series provides an output voltage of 12V, 15V, 24V, 27V, 36V, 48V and 55V for option. It can be adapted to different load application and meet various industrial application requirements. Besides, the EMC and safety regulations comply with the IEC/EN/UL62368, GB4943 standards. High conversion efficiency, compact housing design, good heat dissipation, and all-round protection guarantee the high reliability and stability of this power supply.

Applications

Industrial control system, Mechanical and electrical equipment, Electronic instruments and equipment, Industrial automation machinery, Semiconductor device

Model Encoding

A-800 FKH X P YY



◎ Model List:

Model	Output Power (W)	Output Voltage (V _{dc})	Output voltage adjustable range ^[3] (V _{dc})	Output Current (A)	Ripple and noise (mV) ^[2]	Efficiency @ 230VAC (Typ.) ^[1]	Maximum capacitive load(uF)
A-800FKH-12P	756	12	10.8-13.2	0-63	150	90%	20000
A-800FKH-15P	765	15	13.5-16.5	0-51	150	90%	20000
A-800FKH-24P	792	24	21.6-26.4	0-33	240	91%	18000
A-800FKH-27P*	791.1	27	25-29	0-29.3	240	91%	18000
A-800FKH-36P	792	36	32.4-39.6	0-22	300	91.5%	15000
A-800FKH-42P*	789.6	42	39.5-44	0-18.8	300	91.5%	8000
A-800FKH-48P	796.8	48	43.2-52.8	0-16.6	300	91.5%	8000

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Note: [1] All Parameters not specially mentioned are measured at rated input voltage, full load and 25°C ambient temperature.

[2] Ripple & noise are measured at 20MHz of oscilloscope bandwidth(oscilloscope probe cap and ground clamp are removed)by using a 20±2cm twisted pair-wire terminated with a 47uF electrolytic capacitor and a 0.1uF high frequency capacitor that are connected in parallel at the output end.

[3] Under any steady operating condition, the total output power shall not exceed the rated output power. When the output voltage is raised, the total output power cannot exceed the rated output power. When the output voltage is turned down, the output current cannot exceed the rated output current.

※ For the product models under development, please contact our sales team or distributor for more information.

◎ Input Specification:

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90 V _{ac}		264 V _{ac}	Switch
Rated Input AC Voltage	100 V _{ac}		240 V _{ac}	
Input DC Voltage	120 V _{dc}		370 V _{dc}	
Input Frequency	47 Hz		63 Hz	
Maximum Input Current			22 A	115Vac/full load
			11 A	230Vac/full load
PFC		0.95		
Leakage Current			1 mA	240Vac/50Hz
Surge Current		25 A		115Vac,cold start
		50 A		230Vac,cold start

◎ Output Specifications:

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-2%		+2%	A-800FKH-12P A-800FKH-15P
	-1%		+1%	other models
Line Regulation	-0.5%		+0.5%	all models
Load regulation	-2%		+2%	A-800FKH-12P A-800FKH-15P
	-1%		+1%	other models
Turn On Delay Time			2000ms	115Vac/230Vac,full load
Rise Time			50ms	115Vac/230Vac,full load
Stand-by power consumption	16ms			115Vac/230Vac,full load



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◎ Efficiency:

Parameter	Min.	Typ.	Max.	Notes
Efficiency@115 V_{ac}				
A-800FKH-12P	88%	89%		Ambient temp. 25±5°C, full load
A-800FKH-15P	88%	89%		
A-800FKH-24P	89%	90%		
A-800FKH-27P	89%	90%		
A-800FKH-36P	89.5%	90.5%		
A-800FKH-42P	89.5%	90.5%		
A-800FKH-48P	89.5%	90.5%		
Efficiency@230 V_{ac}				
A-800FKH-12P	89%	90%		Ambient temp. 25±5°C, full load
A-800FKH-15P	89%	90%		
A-800FKH-24P	90%	91%		
A-800FKH-27P	90%	91%		
A-800FKH-36P	90.5%	91.5%		
A-800FKH-42P	90.5%	91.5%		
A-800FKH-48P	90.5%	91.5%		

◎ Function overview:

Function	Description
Cooling mode	RTH2≥50°C ±10°C fan is on; RTH2≤40°C±10°C fan is off (RTH3: internal temperature detection element)
Output ON/OFF control	RC+/RC-:0-0.6V or open circuit power supply on; 2-10V power supply off(NC/optional)

◎ Protection:

Parameter	Min.	Typ.	Max.	Notes
Over Load	105%		150%	Hiccup mode, recovers automatically after fault condition is removed
Output over voltage	110%Vo		145%Vo	atch mode, restart the power supply to restore output after fault condition is removed
Over-temperature protection (ambient temperature)		70°C		over-temperature fault, the power output is turned off. When fault is resolved, resumes normal output.
Short circuit	Hiccup mode when output side has short circuit fault, recovers automatically after fault condition is removed.			



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◎ Safety & EMC:

Safety Category	Country/ Territory	Item	Standards
UL/CUL	USA/ Canada	Safety Standard	UL 62368-1
			CAN/CSA C22.2 No. 62368-1:19
CE	Europe		EN 62368-1
CB	CB Countries		IEC 62368-1
CCC	China		GB 4943.1

EMI Category	Country/ Territory	Item	Standards/Criteria	
FCC	USD/ Canada	Conducted Emission	FCC part 15(ANSI C63.4)	Class B
		Radiated Emission	FCC part 15(ANSI C63.4)	Class B
CE	Europe	Conducted Emission	EN 55032	Class B
		Radiated Emission	EN 55032	Class B
		Harmonic Current	EN 61000-3-2	Class A
		Voltage Flicker	EN 61000-3-3	
CCC	China	Conducted Emission	GB/T 9254.1	Class B
		Radiated Emission	GB/T 9254.1	Class B
		Harmonic current	EN 61000-3-2	Class A

EMS Category	Country/ Territory	Item	Standards/Criteria		
CE	Europe	Electro-static Discharge	EN 61000-4-2	Air 8 kV / Contact 4 kV	Criteria B
		Radiated Susceptibility	EN 61000-4-3	80MHz-1GHz 10V/m	Criteria B
		Electrical Fast Transient	EN 61000-4-4	±2KV	Criteria B
		Surge Immunity	EN 61000-4-5	CM±2KV/DM ±1KV	Criteria B
		conducted Emission Immunity	EN 61000-4-6	10Vr.m.s	Criteria B
		Power Frequency Magnetic Field Immunity	EN 61000-4-8	30A/m,continuous	Criteria B
		Voltage Dips, Drops and Interruptions Immunity	EN 61000-4-11	Drop 100%, 0.5 cycle	Criteria B
				Drop 100%, 250 cycle	Criteria B
				Drop 30%, 25 cycle	Criteria B
				Interrupt 100%, 250 cycles	Criteria C



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Note:

The power supply is considered as a component which will be installed into a final equipment. All the EMC tests are be executed by mounting the unit on a metal plate with size 400mm*400mm*3mm. The final equipment must be re-confirmed that it still meets EMC directives.

© General Specifications:

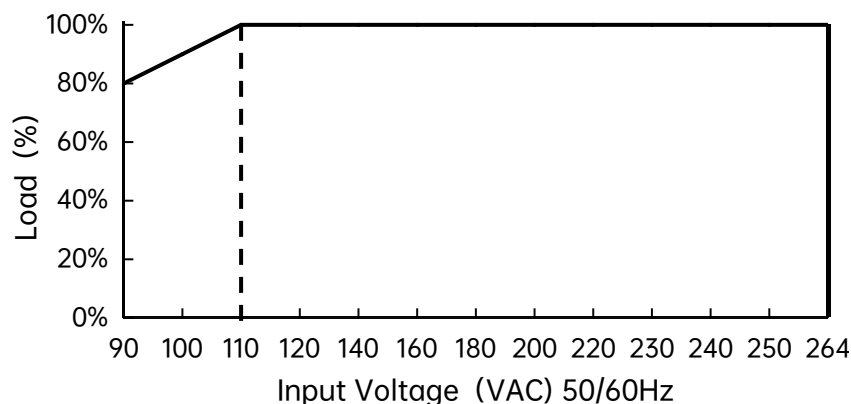
Parameter		Min.	Typ.	Max.	Notes
Dielectric Strength ^[4]	Input-Output	3000 V _{ac}			Last for 60s, leakage current < 10mA
	Input-PE	1800 V _{ac}			
	Output-PE	500 V _{ac}			
Insulation Resistance	Input-Output	100MΩ			Test Voltage: 500Vdc
	Input-PE	100MΩ			
	Output-PE	100MΩ			
Working Temp.		-30°C		+70°C	Refer to "Derating Curve"
Working Humidity		20%RH		95%RH	Non-condensing
Storage Temp.		-40°C		+85°C	
Storage Humidity		10%RH		95%RH	Non-condensing
Temp. Coefficient		-0.03%/°C		0.03%/°C	0~50°C
Mean Time Between Failure(MTBF)		200000			Ambient temp. 25°C, MIL-HDBK- 217F
Dimension		230*127*40.5mm			L*W*H
Net Weight			970g		
Packing		14PCS/15.7Kg/Carton, Carton Dimension: 345(L)*245(W)*280(H)mm			

Note: [4] The minimum isolated voltage of this product is 3000Vac, if you use a higher test standard, please contact our sales representative or FAE.

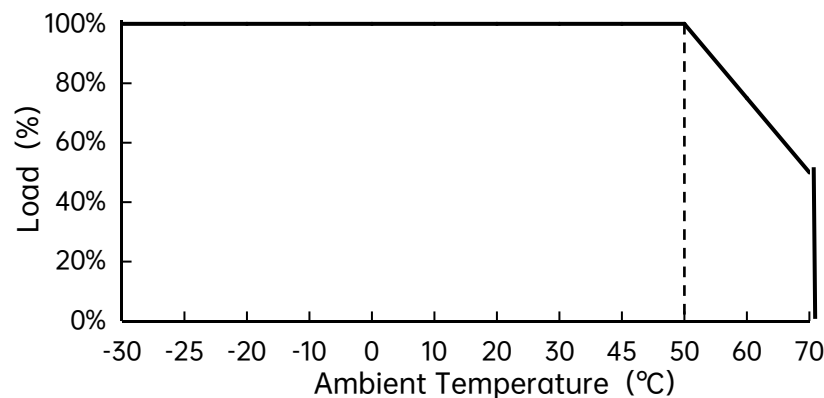


◎Performance Curve:

AC input voltage VS. Output power
12V



Working ambient temperature VS. Output power



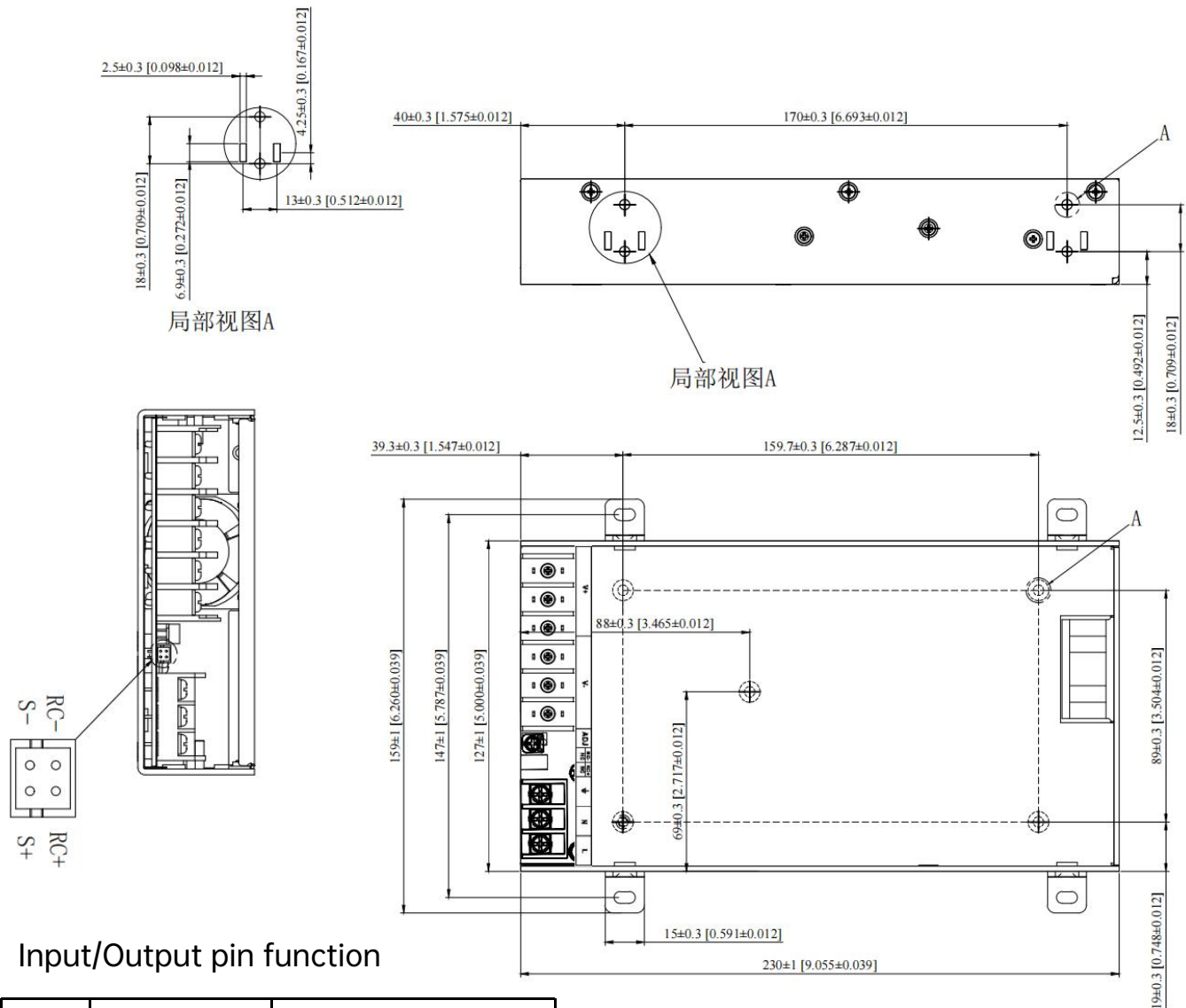
Note:

If more detailed test data during application is needed, please contact our technical team to obtain application notes of related products.

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◎Mechanical Specification:



Input/Output pin function

Pin	Function	Screw Torque
L	AC LINE	Screw: M4*7 Torque: 12Kgf.cn(1.2N.m)
N	AC NETURAL	
⊕	EARTH	
V-	DC output -	Screw: M4*7 Torque: 12Kgf.cn(1.2N.m)
V-	DC output -	
V-	DC output -	
V+	DC output +	
V+	DC output +	
V+	DC output +	

9-M4 Mounting holes for the customer system

Mounting screw: M4

Installation

torque :8Kgf.cn(0.8N.m)

Screw into the housing is not more than 3mm

Note:

Unit: mm[inch]; The unmarked tolerance ±0.5[±0.020]