



Industrial Power Supply

A-350FKD Series

Datasheet

A-350FKD-XP

- ◇ Product Category: 350Watts Industrial Power Supply
- ◇ Version No.: R5.0
- ◇ Issued Date: Aug.20th, 2024

CHUANGLIAN

Product Features

- Universal Input Voltage Range:
90-264VAC or 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
- Output voltage adjustment by potentiometer
- Operating Temperature: -30°C~+75°C (Refer to "Derating Curve")
- 3 Years warranty



RoHS

Product Description

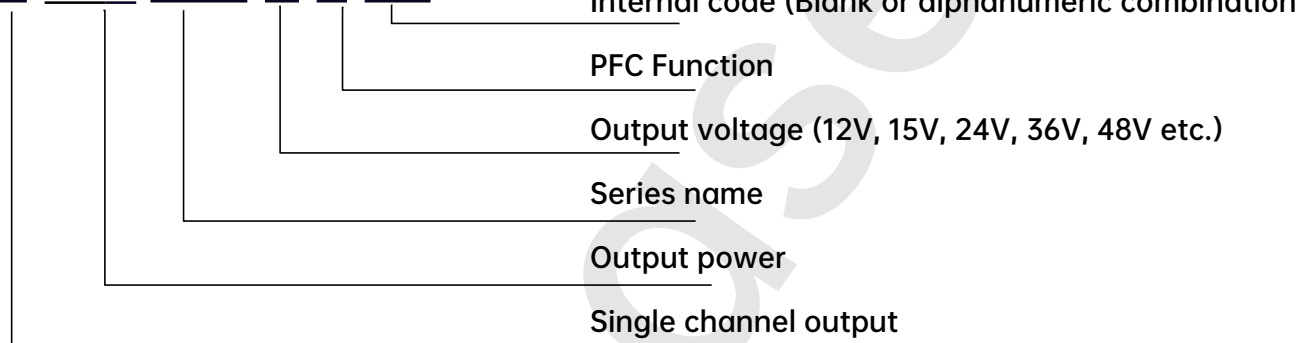
A-350FKD-XP series product is a 350W self-cooling metal case industrial power supply. Adopting universal AC&DC input voltage, the entire series provides an output voltage line of 12V, 15V, 24V, 27V, 36V and 48V for option. It can be adapted to different load application and meet various industrial application 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-350 FKD-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-350FKD-12P	324	12	10-13.2	0-27	150	86%	4000
A-350FKD-15P	330	15	13.5-15.5	0-22	150	87%	3200
A-350FKD-24P	350.4	24	20-26.4	0-14.6	150	88%	1500
A-350FKD-27P※	351	27	25-29	0-13	200	88%	1500
A-350FKD-36P	349.2	36	32.4-39.6	0-9.7	240	89%	1500
A-350FKD-48P	355.2	48	41-56	0-7.4	240	89%	470

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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	Parameter
Input AC Voltage			90 V _{ac}		264 V _{ac}	
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					4.5 A	115Vac/full load
					2.2 A	230Vac/full load
PFC				0.95		
漏电流	输入对地				3.5 mA	240Vac/50Hz
	输入对输出				0.25	240Vac/50Hz
浪涌电流				30 A		115Vac,Cold start
				60 A		230Vac,Cold start

◎ Output Specifications:

Parameters	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-1%		+1%	All models
Line Regulation	-0.5%		+0.5%	All models
Load Regulation	-1%		+1%	All models
Turn On Delay Time			1500ms	115Vac/230Vac,full load
Rise Time			50ms	115Vac/230Vac,full load
Stand-by power consumption	8ms			115Vac/230Vac,full load

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◎ Efficiency:

Parameter	Min.	Typ.	Max.	Parameter
Efficiency@115 V _{ac}				
A-350FKD-12P	84%	85%		Ambient temp. 25±5°C, full load
A-350FKD-15P	85%	86%		
A-350FKD-24P	86%	87%		
A-350FKD-27P	86%	87%		
A-350FKD-36P	87%	88%		
A-350FKD-48P	87%	88%		
Efficiency@230 V _{ac}				
A-350FKD-12P	85%	86%		Ambient temp. 25±5°C, full load
A-350FKD-15P	86%	87%		
A-350FKD-24P	87%	88%		
A-350FKD-27P	87%	88%		
A-350FKD-36P	88%	89%		
A-350FKD-48P	88%	89%		

◎ 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)
Remote compensation	S+ and S- are connected to the positive and negative ends of the load respectively, and the maximum line voltage drop can be compensated to 0.2V (NC/optional)
Output ON/OFF control	C+/C-; 0-0.6V or open circuit power on; 4-10V power supply off (NC/optional)

◎ Protection:

Parameter	Min.	Typ.	Max.	Notes
Over Load	110%		160%	Hiccup mode, recovers automatically after fault condition is removed.
Output Over Voltage	110%Vo		145%Vo	latch 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	USA/ 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 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.

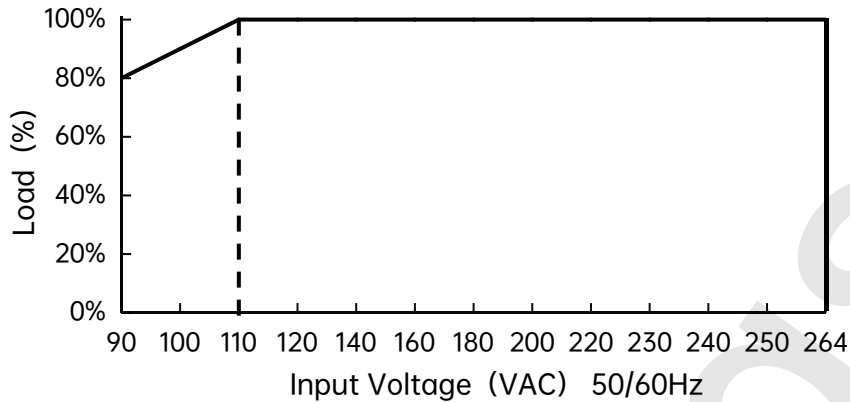
© General Specifications:

Parameter		Min.	Typ.	Max	Notes
Dielectric Strength [4]	Input-Output	4000 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: 500V _{dc}
	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 hours			Ambient temp. 25°C, MIL-HDBK-217F
Dimension		215*115*30mm			L*W*H
Net Weight			800g		
Packing		20PCS/16.5Kg/Carton, Carton Dimension: 375(L)*235(W)*260(H)mm			

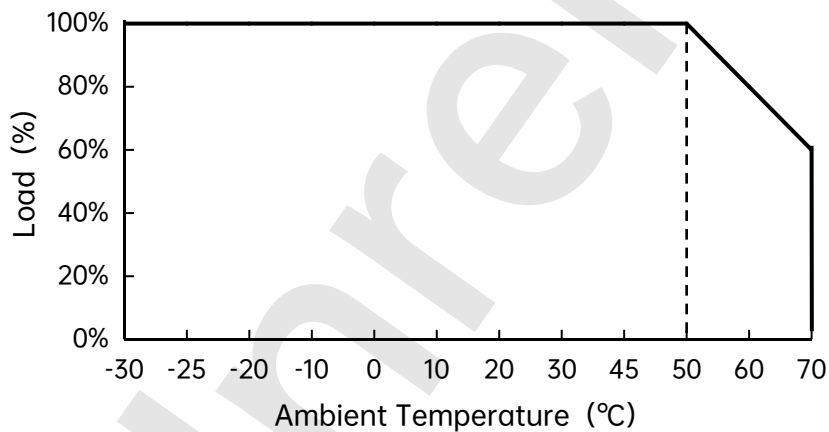
Note: [4] The minimum isolated voltage of this product is 3000Vac, if you use a higher test standard, please contact our sales representative or FAE.

◎ Performance Curve:

AC input voltage VS. Output power



Working ambient temperature VS. Output power



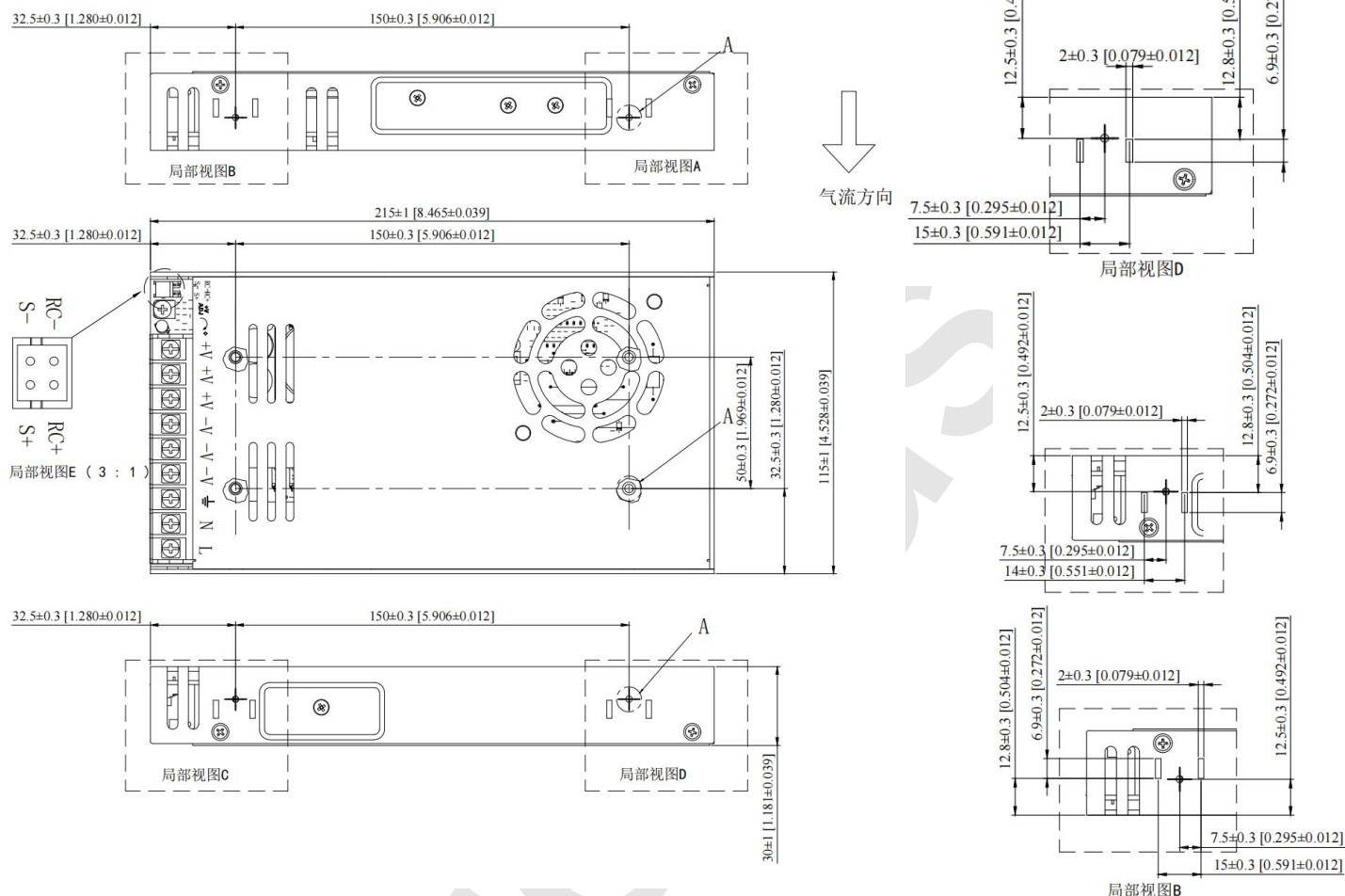
Note:

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 +	

8-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]