

Industrial Power Supply

A-350FGF Series

Product Features

- AC input range selectable by switch
- High efficiency, long life and high reliability
- Output protections: SCP/OVP/OLP/OTP
- Operating temperature: -30°C~+70°C
- LED indicator for power on
- 100% full load burn-in test
- Low profile, 30mm
- Forced air cooling by built-in DC fan
- 3 years warranty



RoHS

Product Description

A-350FGF-X series is a 350W single-output industrial power supply. With AC/DC input voltage selectable by switch and output voltages of 12V/15V/24V/36V/48V, it can adapt to diverse load requirements and meet the needs of most industrial applications. Furthermore, the product meets international EMC and safety standards, including IEC/EN/UL62368 and GB4943. High conversion efficiency, a compact housing design, excellent heat dissipation, and comprehensive protection ensure the high reliability and stability.

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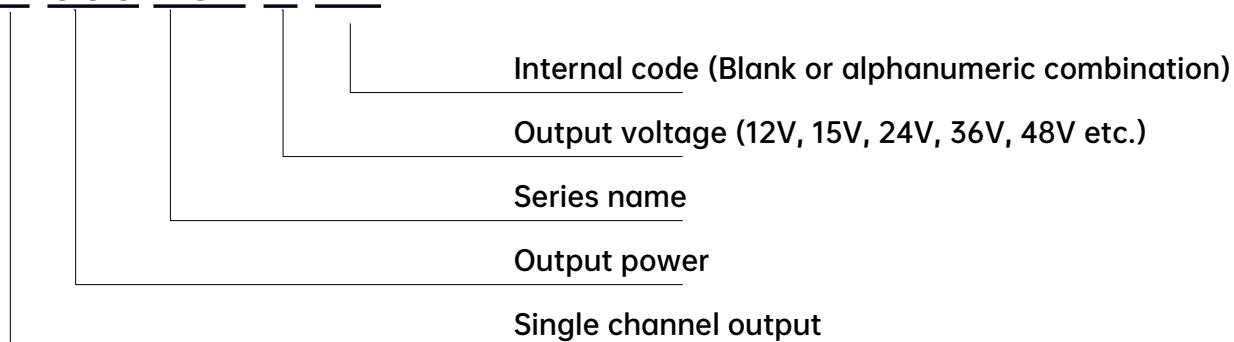


Applications

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

Model Encoding

A-350 FGF-X-YY



© Model List:

Model	Output Power (W)	Output Voltage (V _{dc})	Adjustable output voltage ^[3] (V _{dc})	Output Current (A)	Ripple and noise (mV) ^[2]	Efficiency @230VAC (Typ.) ^[1]	Maximum capacitive load(uF)
A-350FGF-12	350.4	12	10.8-13.2	0-29.2	150	84%	4000
A-350FGF-15	349.5	15	13.5-16.5	0-23.3	150	84%	3200
A-350FGF-24	350.4	24	21.6-26.4	0-14.6	250	86%	1500
A-350FGF-36	349.2	36	32.4-39.6	0-9.7	250	86%	1500
A-350FGF-48	350.4	48	43.2-52.8	0-7.3	250	86%	470

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.

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© Input Specification:

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90V _{ac}		132 V _{ac}	Selectable by switch
	176V _{ac}		264V _{ac}	
Rated Input AC Voltage	100V _{ac}		120 V _{ac}	
	200V _{ac}		240V _{ac}	
Input DC Voltage	127V _{dc}		186 V _{dc}	
	248V _{dc}		373 V _{dc}	
Input Frequency	47Hz		63 Hz	
Max. Input Current			8.6 A	115Vac, full load
			4.3 A	230Vac, full load
Leakage Current			3.5mA	240Vac/50Hz

© Output Specifications:

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-1.5%		+1.5%	All models
Line Regulation	-0.5%		+0.5%	All models
Load Regulation	-1.5%		+1.5%	All models
Setup Time			3000ms	115Vac/230Vac, full load
Rise Time			50ms	115Vac/230Vac, full load
Hold up Time	16ms			115Vac/230Vac, full load

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©Efficiency:

Parameter	Min.	Typ.	Max.	Notes
Efficiency@115 V _{ac}				
A-350FGF-12	82%	83%		Ambient temp. 25±5°C, full load
A-350FGF-15	82%	83%		
A-350FGF-24	84%	85%		
A-350FGF-36	84%	85%		
A-350FGF-48	84%	85%		
Efficiency@230 V _{ac}				
A-350FGF-12	83%	84%		Ambient temp. 25±5°C, full load
A-350FGF-15	83%	84%		
A-350FGF-24	85%	86%		
A-350FGF-36	85%	86%		
A-350FGF-48	85%	86%		

©Protection:

Parameter	Min.	Typ.	Max.	Notes
Over Load	110%		150%	Hiccup mode, auto recovery after fault condition is removed.
Over Voltage	110%V _o		140%V _o	Constant voltage, auto recovery after fault condition is removed.
Over Temperature (Ambient Temp.)	63°C	70°C	77°C	Hiccup mode, auto recovery after fault condition is removed.
Short Circuit	Hiccup mode, auto recovery 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
		Voltage Flicker	EN 61000-3-3	
CCC	China	Conducted Emission	GB/T 9254.1	Class B
		Radiated Emission	GB/T 9254.1	Class B

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 A
		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 A
		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 20%,250 cycles	Criteria B
				Drop 30%,25 cycles	Criteria B
				Interrupt 100%, 250 cycles	Criteria C

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Note:

1. 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.

2. This power supply does not meet the harmonic current requirements specified in EN61000-3-2.

Please do not use this power supply under the following conditions:

- a) The terminal equipment is used in the European countries.
- b) The terminal equipment is connected to a public main power supply with a rated voltage of 220Vac or higher.
- c) The power supply:
 - Installed in terminal equipment with an average or continuous input power greater than 75W.
 - Is a part of lighting system.

Exception:

The power supply used in the following terminal equipment does not need to meet EN61000-3-2.

- a) Professional equipment with total rated input power greater than 1000W.
- b) Symmetrical controlled heating elements with a power rating of 200W or less.

© General Specifications:

Parameter		Min.	Typ.	Max.	Notes
Dielectric Strength ^[4]	Input-Output	3000 V _{ac}			Test time 1 minute leakage current < 7mA
	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
MTBF		100000 hours			25°C, MIL-HDBK-217F
Dimension		215*115*30mm			L*W*H
Net Weight			650g		
Packing		20PCS/16Kg/CTN, Carton Dimension: 395(L)*240(W)*275(H)mm			

Note: [4] The minium withstand voltage is 3000Vac, if a higher test standard is needed, please contact our sales representative or FAE.

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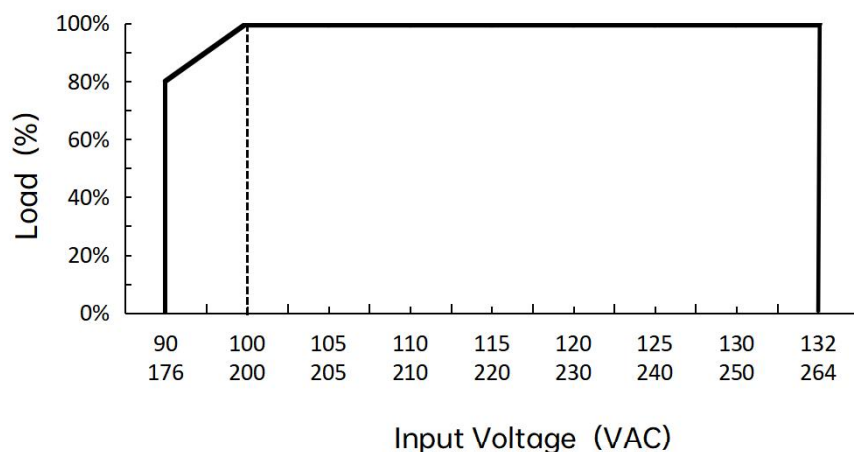
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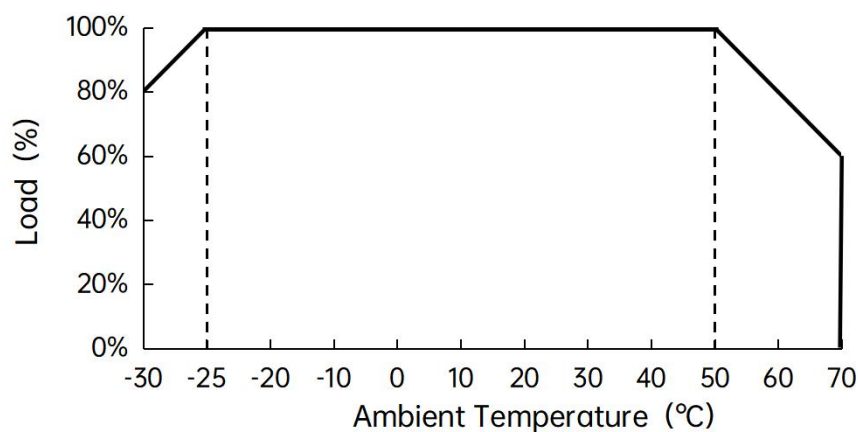
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© Derating Curve:

Input voltage VS Output power



Ambient temperature VS Output power



Note:

1. If you need to know more detailed test data, please contact our technical support.
2. This product is suitable for use in natural air convection environments. If used in a closed environment, please contact our technical support.

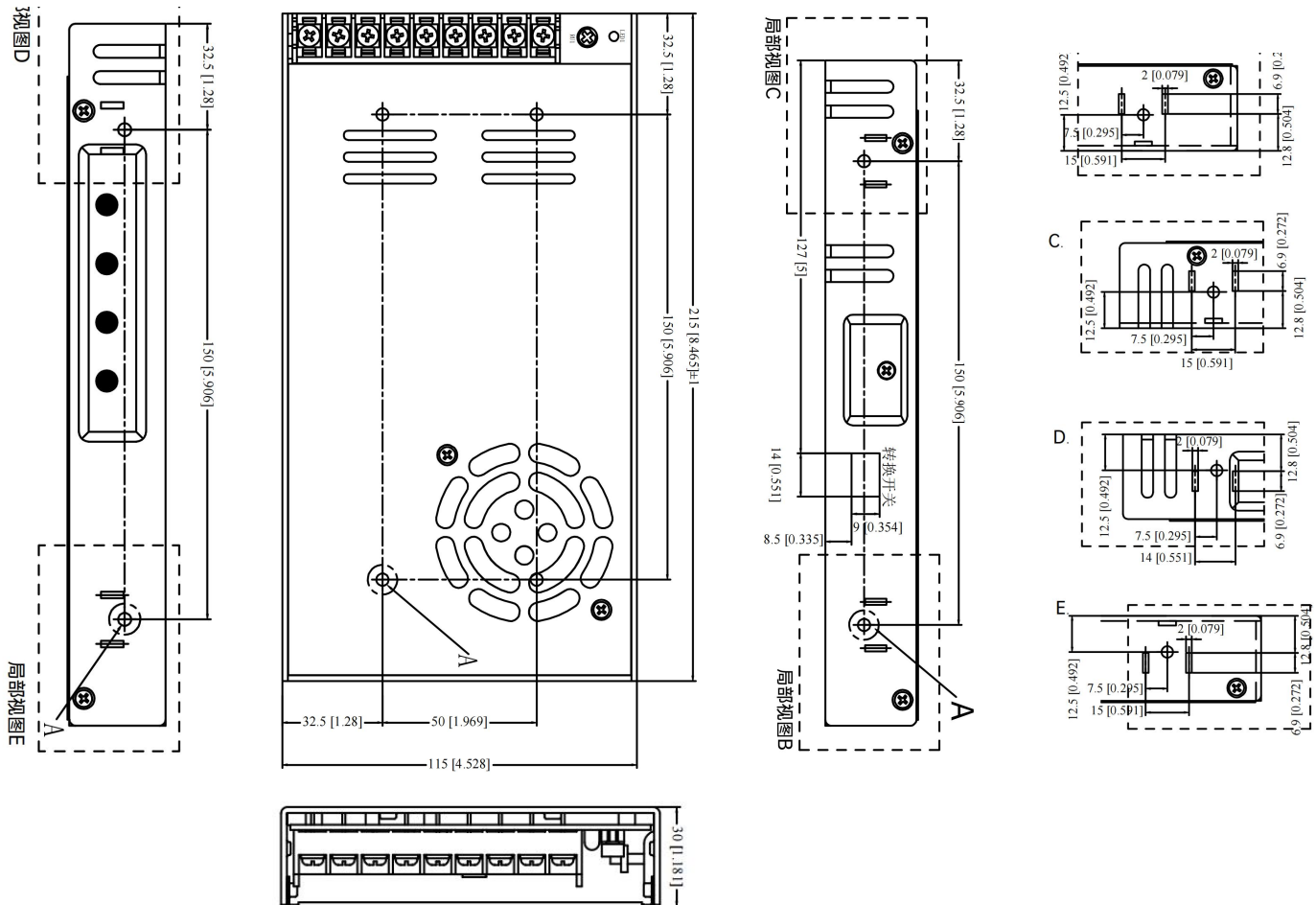
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◎ Mechanical Drawing:



Input and Output Terminals Description

Pin	Function	Screw spec. & Torque(max)
L	AC/L	Screw: M4*7 Torque: 12Kgf.cn(1.2N.m)
N	AC/N	
⊕	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 +	

Note:
 8-M4 mounting holes
 Mounting Instruction:
 Screw: M4
 Installation torque: 8Kgf.cn(0.8N.m)
 Penetration Depth L (max): 4mm
 Unit: mm[inch];
 The unmarked tolerance is $\pm 0.5[\pm 0.020]$

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