

Industrial Power Supply

A-50FGB Series

Features

- Universal input: 90-264Vac / 120-370Vdc
- High efficiency, long life and high reliability
- Output protections: SCP/OVP/OLP
- Operating temperature: -30°C~+70°C
- LED indicator for power on
- 100% full load burn-in test
- Low profile, 30mm
- Cooling by free air convection



RoHS

Product Description

A-50FGB-X series is a 50W single-output industrial power supply. With input voltage range of 90-264VAC/120-370VDC and output voltages of 5V/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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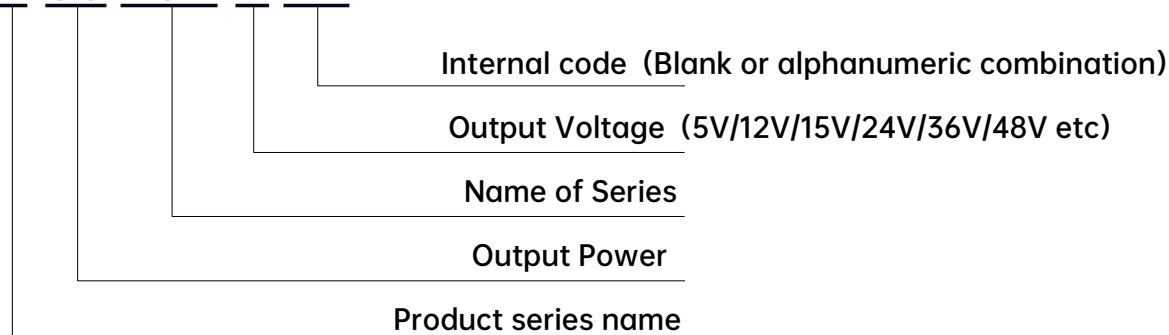


Application

Industrial control system, machinery and electrical equipment, electronic instruments, industrial automation, Semiconductor Equipment, etc.

Name breakdown

A-50 FGB-X 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 capacitance (uF)
A-50FGB-5	50	5	4.5-5.5	0-10	100	83%	6000
A-50FGB-12	50.4	12	10.8-13.2	0-4.2	120	85%	1800
A-50FGB-15	51	15	13.5-16.5	0-3.4	120	85%	1200
A-50FGB-24	50.4	24	21.6-26.4	0-2.1	150	85%	600
A-50FGB-36	50.4	36	33-39	0-1.4	200	86%	360
A-50FGB-48	52.8	48	44-52	0-1.1	200	86%	120

Note:

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

[2] Ripple & noise is 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	90 V _{ac}		264 V _{ac}	
Rated Input AC Voltage	100V _{ac}		240 V _{ac}	
Input DC Voltage	120V _{dc}		370 V _{dc}	
Input Frequency	47Hz		63 Hz	
Max. Input Current			2.0A	115Vac, full load
			1.0A	230Vac, full load
Leakage Current			0.75mA	240Vac/50Hz
Inrush Current		35A		115Vac, cold start
		70A		230Vac, cold start

© Output Specification:

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-2%		+2%	A-50FGB-5
	-1%		+1%	Others
Line Regulation	-0.5%		+0.5%	All models
Load Regulation	-2%		+2%	A-50FGB-5
	-1%		+1%	Others
Turn On Delay Time			2500ms	115Vac/230Vac, full load
Rise Time			50ms	115Vac/230Vac, full load
Hold up Time	20ms			115Vac/230Vac, full load

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◎Efficiency:

Parameter	Min.	Typ.	Max.	Notes
Efficiency@115 V _{ac}				
A-50FGB-5	81%	82%		Ambient temp. 25±5°C, full load
A-50FGB-12	83%	84%		
A-50FGB-15	83%	84%		
A-50FGB-24	83%	84%		
A-50FGB-36	84%	85%		
A-50FGB-48	84%	85%		
Efficiency@230 V _{ac}				
A-50FGB-5	82%	83%		Ambient temp. 25±5°C, full load
A-50FGB-12	84%	85%		
A-50FGB-15	84%	85%		
A-50FGB-24	84%	85%		
A-50FGB-36	85%	86%		
A-50FGB-48	85%	86%		

◎Protection:

Parameter	Min.	Typ.	Max.	Notes
Over load	110%		180%	Hiccup mode, auto recovery after fault condition is removed.
Over voltage	110%		140%	Constant voltage, 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/Region	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 Scheme		IEC 62368-1
CCC	China		GB 4943.1

EMI Category	Country/Region	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
		Harmonic Current	GB/T 9254.1	Class B
		Voltage Flicker	GB/T 17625.1	Class A

EMS Category	Country/Region	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	100% drop,0.5 cycles	Criteria B
				20% drop,250 cycles	Criteria B
				30% drop,25 cycles	Criteria B
				100% interrupt,250 cycles	Criteria C

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.

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© General Specification:

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.		-30°C		+80°C	
Storage Humidity		10%RH		95%RH	Non-condensing
Temp. Coefficient		-0.03%/°C		0.03%/°C	0~50°C
MTBF		600000 hours			25°C, MIL-HDBK-217F
Dimension		99*82*30mm			L*W*H
Net Weight			200g		
Packing		60PCS/14Kg/Carton, Carton size: 395(L)*235(W)*290(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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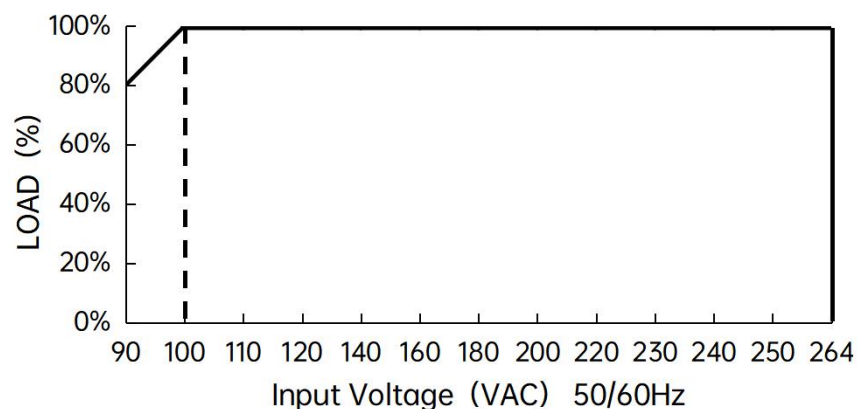
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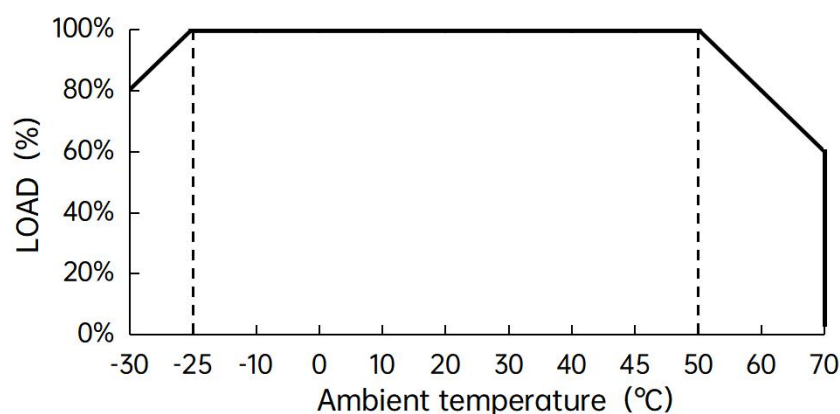


© Derating Curve:

Input voltage VS Output power



Ambient temperature VS Output power



Notes:

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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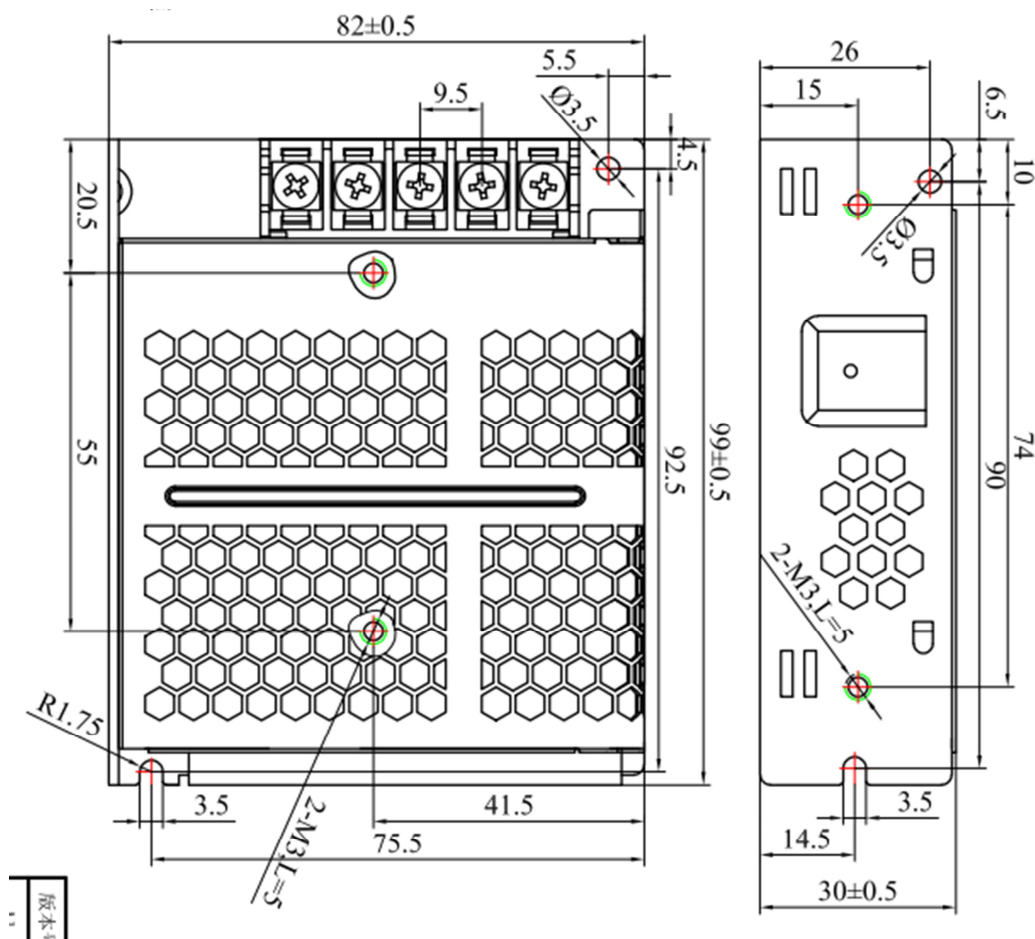
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© Mechanical Drawing:



Pin	Function	Screw torque requirements
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 +	

Note:

8-M3 mounting holes

Mounting Instruction:

Screw: M3

Installation torque: 4Kgf.cn(0.4N.m)

Penetration Depth L (max): 3mm

Unit: mm[inch];

The unmarked tolerance is ± 0.5 [± 0.020]

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