



● **Product Features**

- ✓ Standard ultra-thin product, height 30mm
- ✓ Withstands 300VAC surge input for 5 seconds
- ✓ No-load power consumption <0.3 W
- ✓ -30~+70°C working temperature (check the derating curve for details)
- ✓ Short circuit/overload/overvoltage protection function
- ✓ 2 years warranty

- **Application areas:** industrial control systems, machinery and electrical equipment, electronic instrumentation, industrial automation, household appliances, etc.

- **Product certification:**



- **Implementation standards**

EN55024\EN61000-4-2, 3, 4, 5, 6, 8, 11\GB17625. 1\EN61000-3-2, -3\EN55022\GB4943\UL1012

- **Product description**

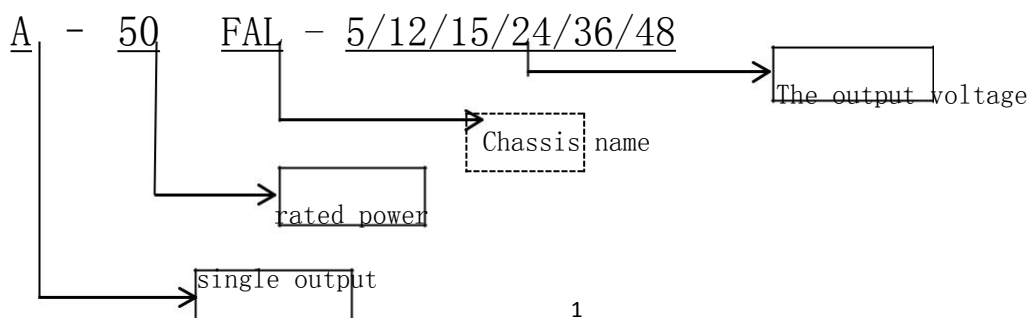
A-50FAL series is a 50W single-channel constant voltage output industrial control power supply, the voltage input range is 90~264VAC, and the output voltage is 5V, 12V,

15V, 24V, 36V, 48V, etc., suitable for industrial control systems, mechanical and electrical equipment, electronic instruments, industrial automation, household appliances

and other industrial fields. This series of products are designed with low power consumption, and the power consumption at no-load is less than 0.3W, which can make the terminal equipment system easily meet the international energy festival

environmental requirements. Ultra-high efficiency, compact shell design, and good heat dissipation ensure that this series of products can work stably for a long time.

- **Product naming**



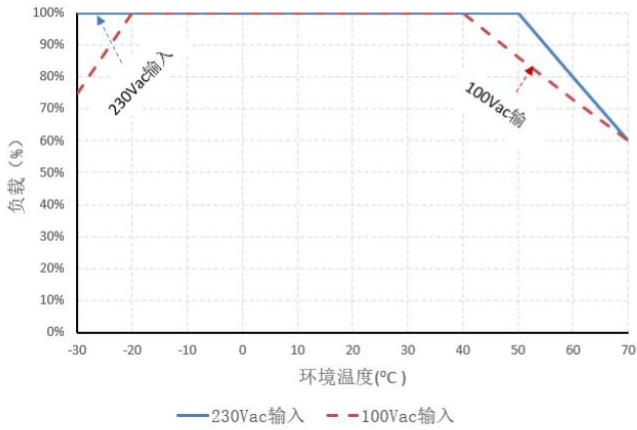
● Electrical parameters

| model | | A-50FAL-5 | A-50FAL-12 | A-50FAL-15 | A-50FAL-24 | A-50FAL-36 | A-50FAL-48 |
|-----------------------------------|----------------------------------|---|------------------------------------|--------------|------------|------------|------------|
| input | voltage range | 90~264VAC | | | | | |
| | Input Current | 230VAC/0.8A | | | | | |
| | | 115VAC/1.6A | | | | | |
| | efficiency | ≥82% | ≥86% | ≥86% | ≥88% | ≥89% | ≥90% |
| | Frequency Range | 47~63HZ | | | | | |
| | leakage current | <3.5mA/240VAC | | | | | |
| Inrush current | Cold start 50A/230VAC | | | | | | |
| output | DC voltage | 5V | 12V | 15V | 24V | 36V | 48V |
| | Rated current | 10A | 4.2A | 3.4A | 2.2A | 1.45A | 1.1A |
| | power | 50W | 50.4W | 51W | 52.8W | 52.2W | 52.8W |
| | Voltage adjustment range | 4.5~5.5V | 10.8~13.2V | 13.5~16.5V | 21.6~26.4V | 32.4~39.6V | 43.2~52.8V |
| | Ripple and Noise | 80mVp-p | 120mVp-p | 120mVp-p | 150mVp-p | 200mVp-p | 200mVp-p |
| | Start Rise Time | 1000ms, 30ms/230VAC load 100% | | | | | |
| | hold time | 30ms/230VAC load 100% | | | | | |
| | Linear adjustment rate | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| | Load Regulation | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| | Voltage accuracy | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| Electromagnetic | Electromagnetic withstand | 设计参考:EN55024 ;EN61000-4-2, 3, 4, 5, 6, 8, 11 | | | | | |
| | Compatible | Harmonic current | 设计参考:GB17625.1;EN61000-3-2,-3 限值要求 | | | | |
| EMC index | | 设计参考:EN55022, Class B | | | | | |
| Safety | safety regulations | 设计参考:GB4943/UL1012 | | | | | |
| | resistance | I/P-0/P:3kVac/10mA; I/P-CASE:1.5kVac/10mA; | | | | | |
| | Pressure nce | 0/P-CASE:0.5KVDC/10mA The time for each test is:lmin | | | | | |
| Protect | Insulation resistance | I/P-0/P: 100M ohms; I/P-Case:100M ohms; 0/P-Case:100M ohms | | | | | |
| | Overvoltage protection | 5.75~6.9V | 13.8~16.2V | 18.75~21.75V | 28.8~33.6V | 41.4~48.6V | 55.2~64.8V |
| | Overload protection | Turn off the output voltage and recover after restart | | | | | |
| | Short circuit protection | 110~150% rated hiccup mode, it can automatically resume normal operation after removing the overload | | | | | |
| Environmental requirements | Working temperature and humidity | -30~70℃ 20%~95%RH no condensation (Please refer to the derating curve for details) | | | | | |
| | Storage temperature and humidity | -30℃~80℃; 10%~95%RH no condensation | | | | | |
| | vibration | Frequency range 10~500Hz, acceleration 2G, each sweep cycle 10min., 6 sweep cycles along X, Y, Z axes | | | | | |
| | impact | Acceleration 20G, duration 11ms, 3 shocks along X, Y, Z axis each | | | | | |
| | Altitude | 2000mtrs (above 2000m, the ambient temperature decreases by 0.6℃ for every 100m increase) | | | | | |
| reliability | MTBF | 25℃ environment: 100000Hrs, MIL-217 Method | | | | | |
| | size | 99*82*30 mm | | | | | |

| | | |
|---------------------------|--|--|
| other requirements | Package | 0.23Kg/pcs, 60pcs/carton, 16KG/carton |
| | cooling method | <input checked="" type="checkbox"/> self-cooling |
| | extension method | <input checked="" type="checkbox"/> stamped |
| Remark | <p>*In order to prolong the service life, it is recommended to leave an extra 30% margin when configuring the load. For example, if the device needs 100W of power, choose a power supply of not less than 130W.</p> <p>*Switching power supply ripple test method: Use a 20MHz oscilloscope to test on the output terminal of the power supply, the length of the ground wire of the oscilloscope probe is not more than 12mm, and the head input is connected in parallel with a 47uF electrolytic capacitor and a 0.1uF high frequency capacitor.</p> <p>*All electrical performance tests are done at 25° C.</p> <p>*The power supply is part of the system components of the equipment, all EMC tests are tested by mounting the sample on the metal plate, and the power supply needs to be combined with the terminal equipment.</p> <p>Conduct electromagnetic compatibility related confirmation.</p> | |

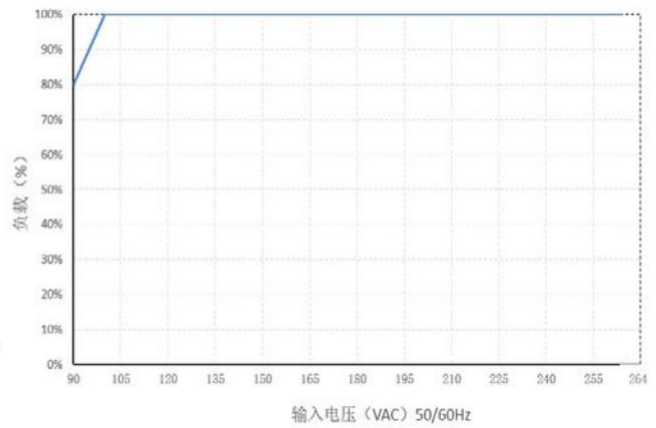
Output Load vs. Temperature Curve

负载VS环境温度

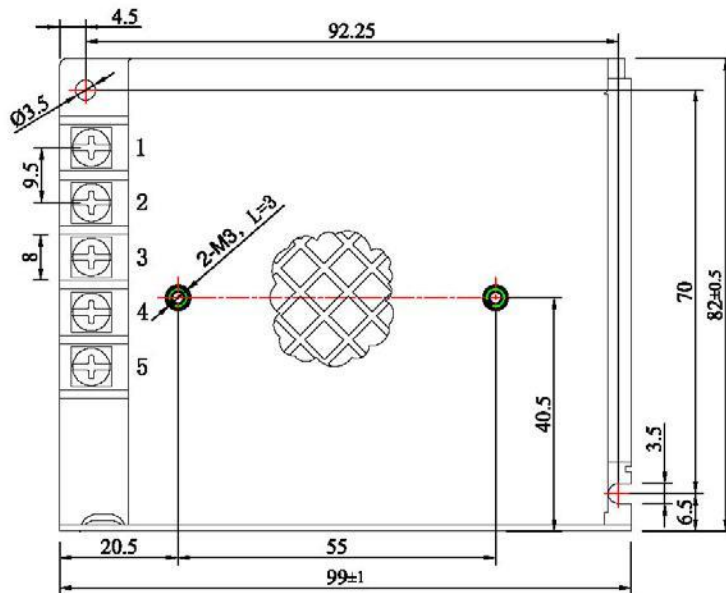
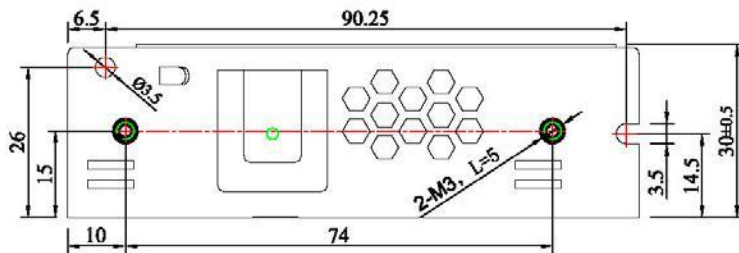


Static characteristic curve

负载VS输入电压



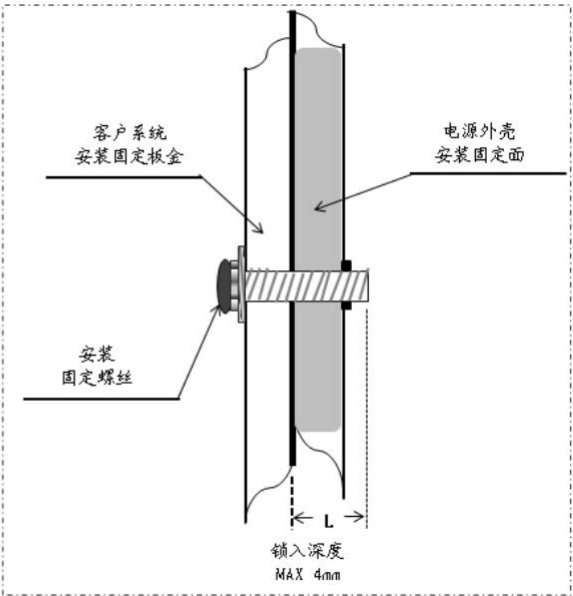
Mechanism size



端子脚位定义

| 引脚编号 | 引脚功能 |
|------|--------------|
| 1 | AC/L |
| 2 | AC/N |
| 3 | PG ⊕ |
| 4 | DC OUTPUT -V |
| 5 | DC OUTPUT +V |

● Installation method

| | |
|---|--|
| <p>warning</p> <ul style="list-style-type: none">• using mounting screws M3*6mm,• Deep into the housing screw depth MAX 4mm,• See the picture on the right |  |
|---|--|

● Product installation and use instructions:

1. When installing, please follow the installation instructions.
2. Before the power-on test run after installation, please check and proofread the connections on each terminal, make sure that the input and output, AC and DC, positive and negative, voltage and current values are correct, and avoid the phenomenon of reverse connection and wrong connection. occurs to avoid damage to the power supply and user equipment.
3. Before powering on, please use a multimeter to measure whether the live wire, neutral wire and ground wire are short-circuited, and whether the output terminal is short-circuited; it is best to start with no load when powering on.
4. Do not exceed the nominal value of the power supply during use, so as not to affect the reliability of the product. If you need to change the output parameters of the power supply, please consult the technical department of our company before using the power supply to ensure the use effect and reliability.
5. In order to ensure the safety of use and reduce interference, please ensure that the ground terminal is grounded reliably (the ground wire is larger than AWG18#).
6. If the power supply fails, please do not repair it without authorization. Please contact the customer service department of our company as soon as possible. Customer service line: 86-519-85215050.

● transportation, storage:

1. Transportation:

This package is suitable for transportation by car, ship, plane, train, etc. It should be rain-proof and civilized loading and unloading during transportation.

2. Storage:

When the product is not in use, it should be placed in the packaging box. The storage environment temperature and relative humidity should meet the requirements of the product. There should be no corrosive gas or product in the warehouse, and there should be no strong mechanical vibration, shock and strong magnetic field. The packing box should be at least 20cm high from the ground, and do not let it soak in water. If the storage time is too long (more than 1 year), it should be re-inspected by professionals before use.