



## Specification

|             |                 |           |                     |
|-------------|-----------------|-----------|---------------------|
| Project NO. | PYW000257-18033 | Model.    | AFOU-5D5+3.3-86PR04 |
| Rev.        | S01             | Engineer. | Huang Tujun         |

|          |  |      |  |
|----------|--|------|--|
| Prepared |  | Date |  |
| Checked  |  | Date |  |
| Approved |  | Date |  |

Change Reason and content:

Sign:



**DONGGUAN PYW ELECTRONICS TECH. CO.,LTD.**

**All rights reserved**

## ■Feature :

- Global voltage input (90VAC ~ 264 VAC)
- At the same time can provide two DC output, suitable for 86 box system use
- Meet the safety design requirements
- Small size, modular insert
- Ultra-wide operating temperature range (-10°C ~ 50°C)
- Comprehensive protection: short circuit/overload/overvoltage
- Warranty for 2 years



## ■Specifications

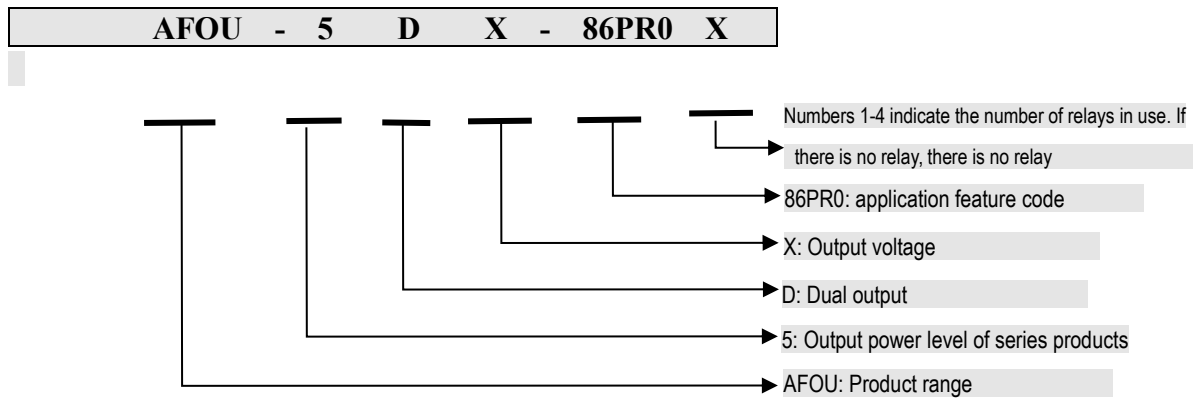
★ Picture for reference

|                                                    |                                  |                                                                                                   |                                                                           |  |
|----------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--|
| Product name note 1                                |                                  | AFOU-5D5+3.3-86PR04                                                                               |                                                                           |  |
| Dc output                                          | Dc output parameter              |                                                                                                   |                                                                           |  |
|                                                    | Rated output voltage             | V1: 5.0V                                                                                          |                                                                           |  |
|                                                    | Rated output current             | 0.6A（含 3.3V 端的 0.25A）                                                                             |                                                                           |  |
|                                                    | Rated output current range       | 0~0.6A（含 3.3V 端的 0.25A）                                                                           |                                                                           |  |
|                                                    | Rated output power               | 3W                                                                                                |                                                                           |  |
|                                                    | Steady state operating           | 0-10A                                                                                             |                                                                           |  |
|                                                    | Ripple noise note 2              | ≤100mV                                                                                            | ≤50 mV                                                                    |  |
|                                                    | Output control range             | /                                                                                                 |                                                                           |  |
|                                                    | Voltage regulation accuracy      | ±5%                                                                                               | ±2%                                                                       |  |
|                                                    | Output start time                | ≤1.5S (230Vac input, Full load)                                                                   |                                                                           |  |
|                                                    | Output hold time                 | ≥20mS(230Vac input, Full load)                                                                    |                                                                           |  |
|                                                    | Voltage overshoot                | <5.0%                                                                                             |                                                                           |  |
|                                                    | Dynamic characteristic           | 10%-100%Load:10%Vp-p      10%-50%Load: 5%Vp-p      50%-100%Load: 5%Vp-p                           |                                                                           |  |
| Input                                              | Input voltage range              | 90Vac~264Vac / 47Hz~63Hz                                                                          |                                                                           |  |
|                                                    | Rated input voltage              | 100Vac~240Vac / 47Hz~63Hz                                                                         |                                                                           |  |
|                                                    | Starting voltage                 | 90Vac                                                                                             |                                                                           |  |
|                                                    | Power factor                     | /                                                                                                 |                                                                           |  |
|                                                    | Efficiency (typical value)       | 58%                                                                                               |                                                                           |  |
|                                                    | Standby power consumption        | <0.5W                                                                                             |                                                                           |  |
|                                                    | Input current (Max.)             | <0.2A                                                                                             |                                                                           |  |
|                                                    | Starting impulse current         | <40A@230Vac Cold start                                                                            |                                                                           |  |
|                                                    | Protection function              | Output overpower protection                                                                       | V1/105% ~200% swing machine, long-term self-recovery. V2/ No requirement. |  |
| Output overvoltage                                 |                                  | VCC self-shutdown                                                                                 |                                                                           |  |
| Output overcurrent                                 |                                  | V1/105% ~200% swing machine, long-term self-recovery. V2/ No requirement.                         |                                                                           |  |
| Output short-circuit                               |                                  | Swing machine, long-term self-recovery                                                            |                                                                           |  |
| Overtemperature protection                         |                                  | /                                                                                                 |                                                                           |  |
| Working environment                                | Operating temperature and        | -10℃~50℃; 20%~90%RH No condensing                                                                 |                                                                           |  |
|                                                    | Store temperature and            | -30℃~85℃; 10%~95%RH No condensing                                                                 |                                                                           |  |
|                                                    | Vibration                        | 10 ~ 500Hz, 2G 10min./1cycle, period for60min. each along X,Y, Z axes                             |                                                                           |  |
|                                                    | Strike                           | 20G/11mS pulse ,3 times at each X,Y,Z axes                                                        |                                                                           |  |
|                                                    | Altitude                         | 5000m                                                                                             |                                                                           |  |
| Safety and electromagnetic compatibility standards | Safety standard                  | GB4943/EN60950 /EN62368      Refer to □ Certification                                             |                                                                           |  |
|                                                    | Leakage current                  | Primary side and secondary side ≤0.25mA                                                           |                                                                           |  |
|                                                    | Insulation strength              | Input-output :3KVac/10mA test time 1min                                                           |                                                                           |  |
|                                                    | Insulation impedance             | Input - Output: 100M ohms                                                                         |                                                                           |  |
|                                                    | Harmaonic current                | EN61000-3-2,-3                                                                                    |                                                                           |  |
|                                                    | Electromagnetic interference EMI | Conduction CE                                                                                     | EN55022 CLASSB; FCC PRAT15A margin of 3dB or above                        |  |
|                                                    |                                  | Radiation RE                                                                                      | EN55022 CLASSB; FCC PRAT15A margin of 3dB or above                        |  |
|                                                    | anti-interference EMS            | Electrostatic                                                                                     | IEC61000-4-2: contact discharge ±6KV, air discharge ±8KV, criterion B     |  |
|                                                    |                                  | Surge                                                                                             | IEC61000-4-5: (differential mode 1KV, common mode 2KV, criterion B) Leve3 |  |
|                                                    |                                  | Fast pulse                                                                                        | IEC61000-4-4: level3, Criterion B (System)                                |  |
|                                                    |                                  | DIPS                                                                                              | IEC61000-4-11: Criterion A                                                |  |
|                                                    |                                  | Conductive                                                                                        | IEC61000-4-6: Criterion A                                                 |  |
| other                                              | Size (L * W * H)                 | 53.6*58*24.6mm                                                                                    |                                                                           |  |
|                                                    | Connecting terminal              | Input: White wire *1, black wire *1; Output 210-2SMT-2*5P with positioning columns in double rows |                                                                           |  |

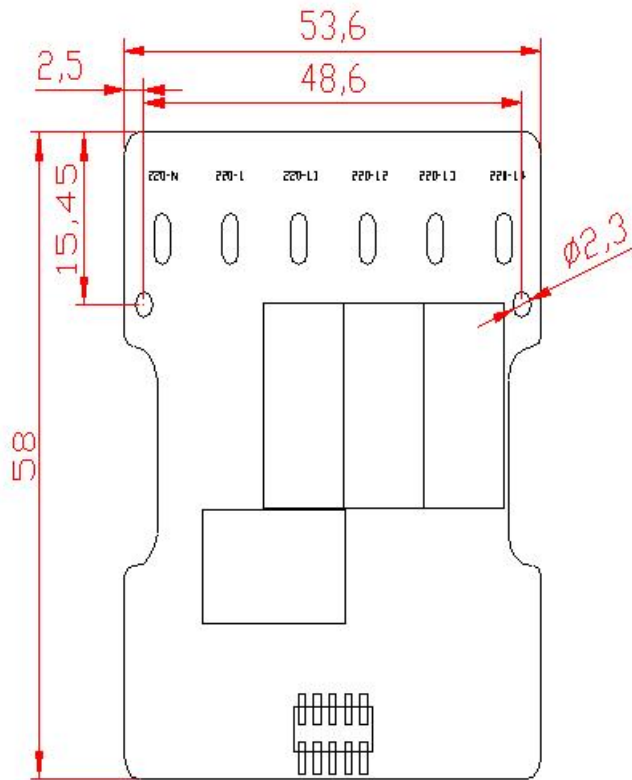


|             |                                                                                                                                                                                                                                                                                                                                                                      |                                                               |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
|             | Cooling mode                                                                                                                                                                                                                                                                                                                                                         | Natural air cooling                                           |
| Reliability | Design MTBF                                                                                                                                                                                                                                                                                                                                                          | 200,000Hrs AT 25°C, MIL-217 Method 2 Components Stress Method |
|             | Design electrolytic capacitor                                                                                                                                                                                                                                                                                                                                        | 3 years@ 40°C FULL Load and Units Continuously Working        |
| Remark      | Note 1: Unless otherwise specified, all parameters are tested after 15min in the oven at room temperature.<br>Note 2: Ripple noise is connected using 12# twisted pair, and at 20MHz bandwidth, 0.1uF and 10uF capacitors in parallel.<br>Note 3: In actual application, see the derating curve, positioning diagram, and installation mode description for details. |                                                               |

### Model Code Description:



## ■ Mechanical:



### Ac input terminal definition:

| Pin No. | Assignment                       |
|---------|----------------------------------|
| 220-N   | Null line                        |
| 220-L   | Firewire                         |
| 220-L1  | K1 Output fire line when working |
| 220-L2  | K2 Output fire line when working |
| 220-L3  | K3 Output fire line when working |
| 220-L4  | K4 Output fire line when working |

### Defined DC output terminal J1:

| Pin No. | Assignment      |
|---------|-----------------|
| 1、5     | Output negative |
| 2、3     | + 3.3V          |
| 4       | + 5V            |
| 6       | S1 Signal input |
| 7       | S2 Signal input |
| 8       | S3 Signal input |
| 9       | S4 Signal input |
| 10      | ZX Signal input |

## ■ Product installation and instruction:

1. Refer to the mechanical to select the appropriate installation. If necessary, the diameter of the kelly wire is no less than AWG #1.
2. Make the electrical connection is correct, to avoid damage to the SPS or equipment : Input & Output, Ac & DC, Positive & negative, Input Voltage Range.
3. Do not touch circuit board to avoid electric shock when SPS is working. Do not touch to avoid heat in three minutes after working. Do not touch the soldering side.
4. Let it work at ventilated conditions to improve reliability. Do not make it ON/OFF too quickly . Any condition is out of the rated range, please contact FAE for suggestion.
5. If the SPS works abnormally, do not open to repair except professional, contact FAE for support.

## ■ Packaging, transportation, storage:

1. **Package:** Unless customer's special demand, Product name, model, manufacturer logo in the box; Date of production can be traced back.
2. **Transport:** Product packaging is suitable for road, railway, air shipping and sea shipping, etc. Be to civilized handling, waterproof, anti-fall, and to avoid severe impact.
3. **Storage:** Do not disassemble or take off the packing box when the product is not in use. Keep 20cm away from ground, and 50cm away from Wall, heat source and air inlet. The storage temperature and relative humidity shall be in accordance with the specifications, and Avoid strong mechanical vibration, shock and strong magnetic field. If the storage period is more than two years, it should be tested again before use.

## ■ Reference standard:

1. **GB4943/EN60950/ EN62368:** Safety of Information Technology Equipment.
2. **GB2324:** Basic environmental testing procedures for electric and electronic products.
3. **EN55022/EN55032/EN55024:** Information technology equipment – Radio disturbance characteristics - Limits and methods of measurement
4. **IEC61000-4:** Electromagnetic compatibility (EMC) test and measurement techniques.
5. **IEC 61000-6-1 :** Standard and measurement of electromagnetic immunity for residential, commercial and light industrial environments.
6. **IEC 61000-6-2 :** Standard and measurement of electromagnetic immunity for products used in industrial environment.
7. **GB17625.1-2022:** The limits for the harmonic current from low-voltage electrical and electronic equipment (equipment input current≤16A per phase ).
8. **GB/T 17626:** Electromagnetic compatibility testing and measurement techniques.
9. **GB/T14714:** General specification for switching power supply of micro computer system equipment.
10. **GB/T9254.1-2021:** Radio disturbance limits and methods of measurement for information technology equipment.
11. DONGGUAN PYW ELECTRONICS TECH. CO.,LTD. Enterprise standard.

## ■ Statement

### Class A statement

#### Warning

**In a residential environment, running this device may cause radio interference.**