

Open-frame Power Supply with Single Output and PFC
420W



- Wide voltage input (90-264VAC)
- Dimensions: 127*76.2*39mm , 5"*3"
- Can be installed in CLASS I CLASS II systems
- Protection types: Short circuit/Overload/Overvoltage
- Naturalaircooling,operatingtemperaturerange:-40°Cto+70°C
- Isolation voltage: 3kV
- 100% high-temperature aging and testing
- 3-year warranty

Models

| Model | Input Voltage | Rated Power | Output | Rated Current | Ripple Current | Efficiency |
|------------|---------------|-------------|--------|---------------|----------------|------------|
| PSFC420-12 | 90-264VAC | 400W | 12V | 33.3A | 100 mV P-P | 91.5% |
| PSFC420-15 | 90-264VAC | 400W | 15V | 26.7A | 100 mV P-P | 92% |
| PSFC420-24 | 90-264VAC | 420W | 24V | 17.5A | 240 mV P-P | 93% |
| PSFC420-27 | 90-264VAC | 420W | 27V | 15.5A | 240 mV P-P | 93% |
| PSFC420-29 | 90-264VAC | 420W | 29V | 14.5A | 240 mV P-P | 91% |
| PSFC420-36 | 90-264VAC | 420W | 36V | 11.6A | 240 mV P-P | 93% |
| PSFC420-48 | 90-264VAC | 420W | 48V | 8.7A | 240 mV P-P | 94% |
| PSFC420-54 | 90-264VAC | 420W | 54V | 7.7A | 240 mV P-P | 94% |

Product Datasheet

Input Specifications

| Parameter | Min. | Typ. | Max. | Note |
|-------------------------|--------|--------|--------|------------------|
| Input Voltage Range(AC) | 90Vac | - | 264Vac | |
| Nominal Input Voltage | 100Vac | - | 240Vac | |
| Power Factor | 0.95 | - | - | 230Vac Full load |
| | 0.98 | - | - | 115Vac Full load |
| Input Current | - | 4.6A | - | 100Vac Full load |
| | - | 2.1A | - | 240Vac Full load |
| Inrush Current | - | 30A | - | 115Vac Full load |
| | - | 60A | - | 230Vac Full load |
| Leakage Current | - | 0.75mA | - | 230VAC/60Hz |

Output Specifications

| Parameter | Min. | Typ. | Max. | Note |
|-------------------------|-------|-------|--------|------------------|
| Output Voltage Accuracy | - | ±1.0% | - | Full load |
| Line Regulation | - | - | ±1.0% | Full load |
| Load Regulation | - | - | ±1.0% | 10-100% Load |
| Output Voltage Range | 11.5V | - | 13.2V | PSFC420-12 |
| | 14.3V | - | 15.8V | PSFC420-15 |
| | 22.8V | - | 25.2V | PSFC420-24 |
| | 25.6V | - | 28.4V | PSFC420-27 |
| | 17.5V | - | 30.0V | PSFC420-29 |
| | 33.8V | - | 38.0V | PSFC420-36 |
| | 47.3V | - | 53.2V | PSFC420-48 |
| | 51.2V | - | 57.8V | PSFC420-54 |
| Start-Up Time | - | - | 1000mS | 230Vac Full load |
| | - | - | 2000mS | 115Vac Full load |
| Rise Time | - | - | 50mS | 230Vac Full load |
| | - | - | 60mS | 115Vac Full load |
| Hold-Up Time | - | 10mS | - | 230Vac Full load |
| | - | 5mS | - | 115Vac Full load |

General Specifications

| Parameter | Min. | Typ. | Max. | Note |
|-------------------------------|--|-------------------|--------|------|
| Operating Temperature | -40°C | - | +70°C | |
| Operating Humidity | 10% RH | - | 85% RH | |
| Storage Temperature | -40°C | - | +105°C | |
| Storage Humidity | 10% RH | - | 85% RH | |
| Temperature Drift Coefficient | - | 0.03%/(0°C -50°C) | - | |
| Vibration Coefficient | 10-500Hz, 2G, 10 minutes per cycle, 60 minutes each for X, Y, Z axes | | | |
| MTBF | 165K hrs min. MIL-HDBK-217F(25°C) | | | |
| Product Dimensions | 127*76.2*39mm(L*W*H) | | | |
| Product Weight | 344g | | | |

Product Datasheet

Safety&EMC Compliance

| Parameter | Standard | Note |
|------------------------------------|--|------|
| Safety Standard | UL62368-1, EN/EN62368-1, IEC62368-1 | |
| Insulation Voltage | I/P-O/P:3KV | |
| | I/P-FG:1.5KV | |
| | O/P-FG:0.5KV | |
| Insulation Resistance | >100M Ohms/500VDC 25°C 70% RH | |
| Conduction and Radiation | EN55011, EN55032 (CISPR32) CLASS B | |
| Electrostatic Discharge | IEC/EN 61000-4-2 level 4 Contact ±8kV/Air ±15kV | |
| Radio Frequency Radiation Immunity | IEC/EN 61000-4-3 level 4 lev3 | |
| Electrical Fast Transient/Burst | IEC/EN 61000-4-4 level 4 4kV | |
| Surge | IEC/EN 61000-4-5 level 4 Line-to-Line 2kV /Liine-GND 4KV | |

Unless otherwise specified, the above data are measured under the conditions of TA=25°C, humidity <75%, nominal input voltage of 230VAC and rated output load.

Ripple and Noise Measurement Method

Use the parallel line test method. Meanwhile, a 0.1μF high-frequency ceramic capacitor and a 47μF electrolytic capacitor should be connected in parallel at the terminal, and the measurement should be carried out under a 20MHz bandwidth.

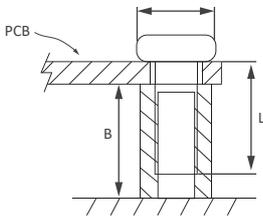
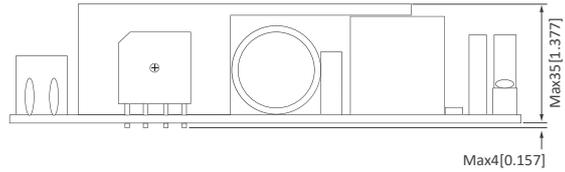
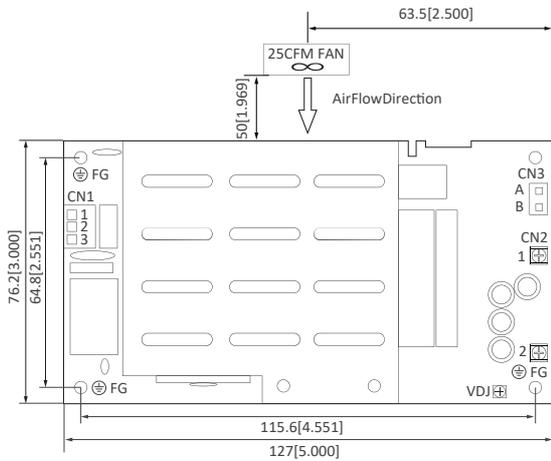
The power supply is regarded as a component within the system, and its electromagnetic compatibility (EMC) verification must be conducted in conjunction with the end equipment.

Protection Specifications

| Parameter | Standard | Note |
|----------------------------|--|------------|
| Short-Circuit Protection | Hiccup Mode, self-recoverable after fault elimination | |
| Overload Protection | 110%-160% load, self-recoverable after fault elimination | |
| Over-Temperature Protectio | Reduced power output or no output | |
| Overvoltage Protection | Protection Coverage ≤15.6V | PSFC420-12 |
| | Protection Coverage ≤19.5V | PSFC420-15 |
| | Protection Coverage ≤36V | PSFC420-24 |
| | Protection Coverage ≤35.1V | PSFC420-27 |
| | Protection Coverage ≤36V | PSFC420-29 |
| | Protection Coverage ≤46.8V | PSFC420-36 |
| | Protection Coverage ≤60V | PSFC420-48 |
| | Protection Coverage ≤63V | PSFC420-54 |
| | Output Shutdown | |

Product Datasheet

Dimensions & Interface Definition



Installation Recommendation: Use M3 screws. As shown in the diagram, the dimensions shall meet: $A < 5.5\text{mm}$, $B \geq 8\text{mm}$, $L = 6\text{mm}$. The tightening torque shall not exceed $0.4\text{N}\cdot\text{m}$.

Unit of dimension: mm [inch]. Unmarked tolerance: $\pm 0.5\text{mm}$

CLASS I system: Mounting holes marked with \oplus must be connected to the protective earth (PE)

CLASS II system: No requirement for protective earth (PE) connection

| Connector | Pin | Function | Customer Connection Terminal |
|-----------|-----|----------|--|
| CN1 | 1 | AC L | Connector: JST VHR Connector Terminal: JST SVH-21T-P1.1 or equivalent |
| CN1 | 2 | No PIN | |
| CN1 | 3 | AC N | |
| CN2 | 4 | -Vo | M3.5 Pan HD screw in 2 positions Torque to 8.1 bs-in (90cNm) Max |
| CN2 | 5 | +Vo | |
| CN3 | A | DC COM | Connector: TPK DH2 |
| CN3 | B | +12V | Connector Terminal: TKP or Equivalent |

Electrical Curve

