

1000 Watt – FSAK Configurable Series, ATX Power Supply Product Specification

Product Description

This 1000 watt, ATX power supply has customizable outputs to provide the OEM flexibility to tailor output loads to better fit their system's power needs. This unique design offers up to 8 outputs (plus 5V standby) in which outputs can be paralleled to provide increased current for individual voltage rails. There is even a 24Vdc output to meet CompactPCI and VME platform requirements.

Product Features

- Configurable Outputs for Application Flexibility
- Selectable Output Voltages: 3.3V, 5V, 12V, & 24V
- Up to 8 Output Voltages with a 5V Standby
- Industry Standard PS/2 Form Factor



AC Input

- Voltage Input Range: 90-264Vac
- Frequency: 50/60Hz (47-63Hz)
- Phase: Single Phase
- Typical Input Current: 10.8A at 115Vac input, full load
- Power Factor Correction: 0.95 min @ 115Vac, full load
- Typical Leakage Current: 700uA at 240Vac

FSAK1000P Output Selection Matrix

| Output Rail | Voltage | Max Current | Regulation | Ripple |
|-------------|---------------------|---------------|------------|--------|
| V1 | +12Vdc | 83A | ±5% | 1% |
| V1a | +12Vdc | 15A | ±5% | 1% |
| V2 | +5V/3.3V | 30A/30A | ±5% | 1% |
| V2a | +5V/+3.3V/+24V | 30A/30A/5A | ±5% | 1% |
| V3 | +5V/3.3V | 30A/30A | ±5% | 1% |
| V3a | +5V/+3.3V/+24V | 30A/30A/5A | ±5% | 1% |
| V4 | +5V/+3.3V/+24V/-12V | 30A/30A/5A/5A | ±5% | 1% |
| V5 | -5V/-12V | 1A/.8A | ±10% | 1% |
| V6 | +5Vsb | 3A | ±5% | 1% |

Output Selection Matrix Notes:

1. Total continuous combined output(s) wattage: 1000W.
2. Minimum load of 0.5A on V1, no minimum load required on other outputs.
3. Maximum combined current for V1 & V1a: 83A.
4. Maximum combined current for V2 & V3: 170W.
5. V1a is isolated from main outputs by inductor as source of system fans.
6. All output rails could be optional except got 12V (V1).

DC Output Characteristics

- Set Point Accuracy: $\pm 1.0\%$ of Output Voltage (Nominal input; full load; 25°C)
- Transient Response: Output voltage returns to within 1% in less than 2.5mS for a 50% load change and the peak transient does not exceed 5%
- Overshoot: Turn-on and turn-off overshoot should not exceed 10% over nominal voltage
- Holdup Time: 16mS

Electrical Characteristics

- Switching Frequency: 300KHz Fixed
- Efficiency: 85% min (At 20%/50%/100% load and at 115Vac nominal input)
- Turn On Delay: 100 to 200mS (To nominal output voltages)
- Isolation Voltage (High Voltage Withstand):
 - Primary to Secondary: 4242Vdc
 - Primary to Ground: 2800Vdc

Protection

- Over Current Limit: 130% maximum for +12V output (V1) and 150% max for 3.3V & 5V outputs
- Over-Voltage Limit: 115 to 125% of output voltage. Unit latched 1 minute, recycle AC input to reset
- Short Circuit: Recovery after short circuit condition is removed and cycle ON/OFF to reset
- No-load Operation: No damage or hazardous condition will occur with all the DC output connectors disconnected from the load. The power supply may latch into the shutdown state.

Environmental

- Operating Temperature: -10° to +50°C (Ambient Air)
- Storage Temperature: -40° to +85°C
- Operating Humidity: 10% to 90% RH, Non-condensing
- Storage Humidity: 5% to 95% RH, Non-condensing
- Operating Altitude: Sea-level to 16,000 ft.
- Conducted & Radiated EMI: Designed to meet EN55022 Level B, CISPR 22 Class B, FCC Part J Class B
- Immunity: Designed to CE: EN55024:2010/IEC61000

Safety

- Safety Agency Certifications: cUL (cTUVus): UL62368-1, TUV: EN62386-1, CB: IEC62368-1

Cooling

- Internally Cooled: A single 80mm (Delta) high reliable DC fan

Mechanical

- Enclosure: Metal chassis, enclosure, non-finish.
- Outline Dimensions: 150mm X 140mm X 86mm (W X L X H) – excluding cabling & connectors
- Weight: ~3.5 lbs. (~1587 grams)
- I/O Cable & Connectors: Standard ATX configuration (Custom cabling/connectors available)

Optional Features, Controls or Alarms

- PWR_OK (Power Good Signal)
- PS_ON (DC Soft Start)
- +5Vsb (Standby Voltage)

Note

- Product specifications subject to change without notice