

Wall Industries, Inc.

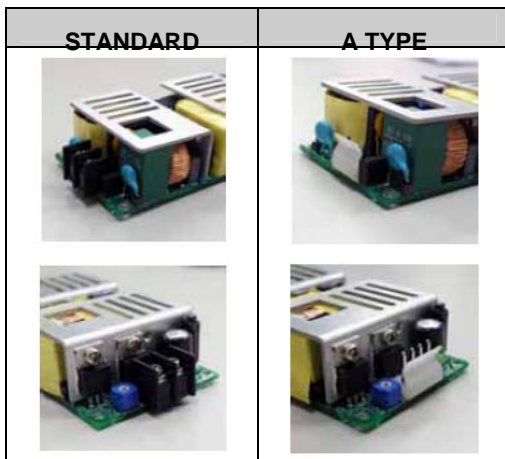
PSAQF1000 SERIES

**90~264VAC (120~370VDC) Input
PFC Function, Single Output
Up to 100 Watts, Open Frame
AC/DC Switching Power Supplies**



FEATURES

- Open Frame
- Up to 100W
- Single Output
- 2 Year Warranty
- RoHS Compliant
- Low Ripple & Noise
- Free Air Convection
- 3000VAC I/O Isolation
- High Efficiency up to 92%
- -25°C to +70°C Operating Temperature
- Ultra Compact Size: 4.1 x 2.05 x 0.98 Inches
- Output Voltages Available from 12VDC to 48VDC
- PFC Function: > 0.95 at full Load, >0.9 at 50% Load
- Short Circuit, Over Load, and Over Voltage Protection
- Optional I/O Connectors Available (Standard or A Type)
- Universal Input Voltage Range: 90~264VAC (120~370VDC)



DESCRIPTION

The PSAQF1000 series of AC/DC switching power supplies offers up to 100W of output power in a 4.1 x 2.05 x 0.98 inch open frame constructed design. All models have a single output and a universal input. Some features include 3000VAC I/O isolation, low ripple and noise, -25°C to +70°C operating temperature, high efficiency up to 92%, and PFC function > 0.95 at full load. These supplies also have UL/cUL and CE safety approvals and are RoHS compliant. All models are protected against short circuit, over power, and over voltage conditions. Optional Molex input/output connector type available (suffix "A").

SPECIFICATIONS: PSAQF1000 Series

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
 We reserve the right to change specifications based on technological advances.

INPUT SPECIFICATIONS

| | |
|---------------------------|--|
| Input Voltage Range | 90 ~ 264VAC or 120 ~ 370VDC |
| Input Frequency | 47 ~ 63Hz |
| Input Current (Full Load) | < 2.0A max @ 115VAC, < 1.0A max @ 230VAC |
| Inrush Current (< 2ms) | < 30A max @ 115VAC, < 60A max @ 230VAC |
| Power Factor | PF > 0.99 @ 115VAC and full load; PF > 0.95 @ 230VAC and full load |

OUTPUT SPECIFICATIONS

| | |
|--------------------------------------|--|
| Output Voltage | See Table |
| Output Power | See Table |
| Voltage Accuracy | ±2% |
| Output Current | See Table |
| Line Regulation | ±1% |
| Load Regulation | ±1% |
| Ripple & Noise (<i>See Note 2</i>) | See Table |
| Minimum Load | 0% |
| Maximum Capacitive Load | See Table |
| Hold-up Time | 10ms @ 110VAC min. (measured at 90%Vout) |
| Temperature Coefficient | ±0.03%/°C (0 ~ 50°C) |

PROTECTION

| | |
|--------------------------|-------------------|
| Over Power Protection | Auto-recovery |
| Over Voltage Protection | Zener diode clamp |
| Short Circuit Protection | Auto-recovery |

GENERAL SPECIFICATIONS

| | | |
|---------------------|-----------------|---------|
| Switching Frequency | 100KHz | |
| Efficiency | See Table | |
| Isolation Voltage | Input to Output | 3000VAC |
| | Input to FG | 1500VAC |
| | Output to FG | 500VAC |
| Leakage Current | < 0.5mA max | |

ENVIRONMENTAL SPECIFICATIONS

| | |
|-----------------------|--|
| Operating Temperature | -25°C to +70°C (with derating) |
| Storage Temperature | -25°C to +85°C |
| Humidity | 95% RH |
| Vibration | 10~500Hz, 2G 10 min./1 cycle, 60 min. each along X, Y, and Z axes. |
| Cooling Method | Free air convection |
| MTBF | > 250,000 hours @ 25°C (MIL-HDBK-217F, Notice 1) |

PHYSICAL SPECIFICATIONS

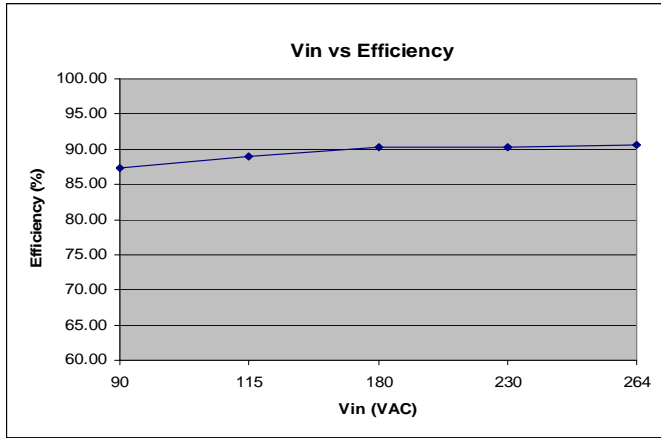
| | |
|------------------------|--|
| Weight | 7.41oz (210g) |
| Dimensions (L x W x H) | 4.1 x 2.05 x 0.98 inches (103.9 x 52.1 x 25.0 mm); Tolerance: ±0.5mm |

SAFETY & EMC

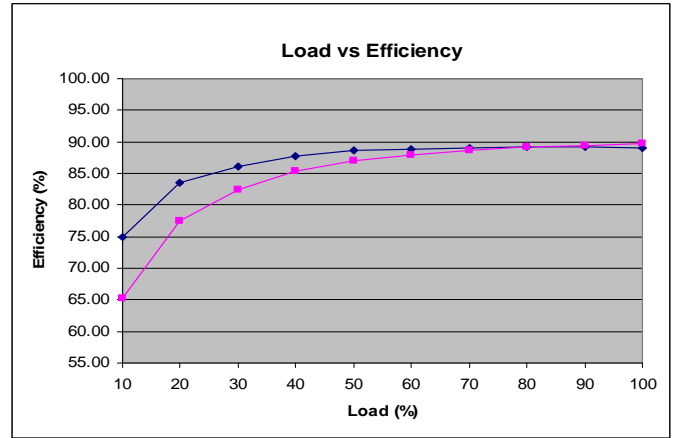
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|-------------------------------------|-------------------------------|
| Agency Approvals | CE, UL60950-1 |
| EMI (Conducted & Radiated Emission) | EN61000-6-3, EN 55022 class B |
| EMS (Noise Immunity) | EN 55024 |

EFFICIENCY VS LOAD

12 VDC Models

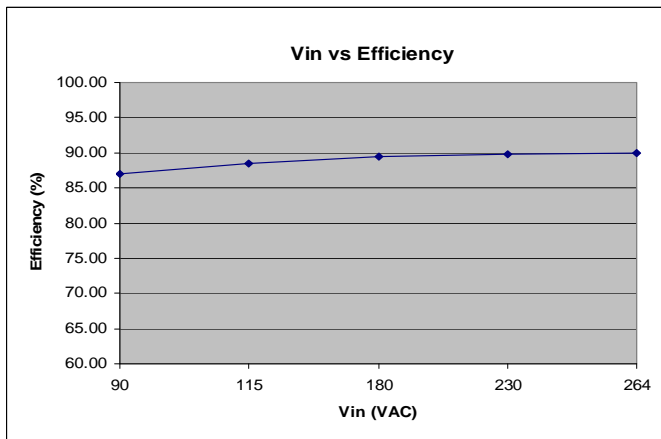


| Input Voltage (V) | 90 | 115 | 180 | 230 | 264 |
|-------------------|-------|-------|-------|-------|-------|
| Efficiency (%) | 87.38 | 89.03 | 90.31 | 90.22 | 90.66 |

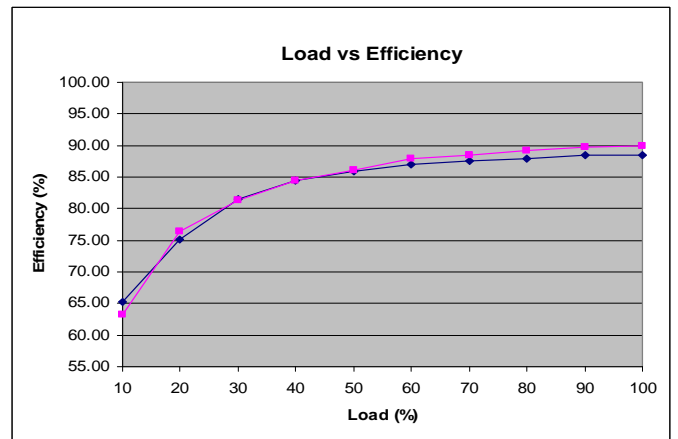


| Load (%) | 10 | 20 | 30 | 40 | 50 |
|----------|-------|-------|-------|-------|-------|
| 115V (%) | 74.98 | 83.50 | 86.13 | 87.83 | 88.70 |
| 230V (%) | 65.30 | 77.58 | 82.39 | 85.30 | 87.01 |
| Load (%) | 60 | 70 | 80 | 90 | 100 |
| 115V (%) | 88.87 | 89.11 | 89.20 | 89.13 | 89.03 |
| 230V (%) | 87.95 | 88.63 | 89.14 | 89.46 | 89.67 |

15VDC Models



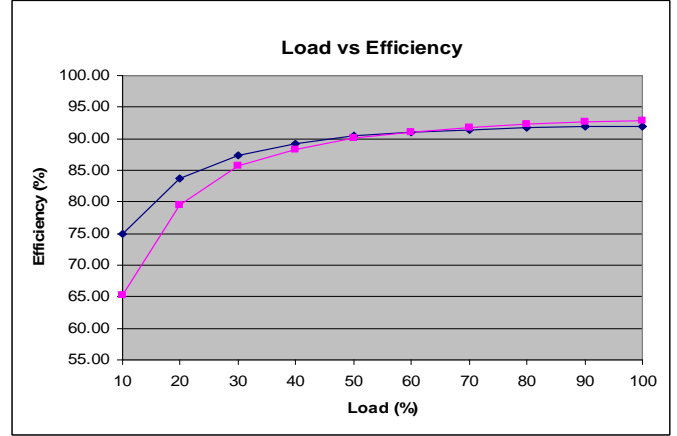
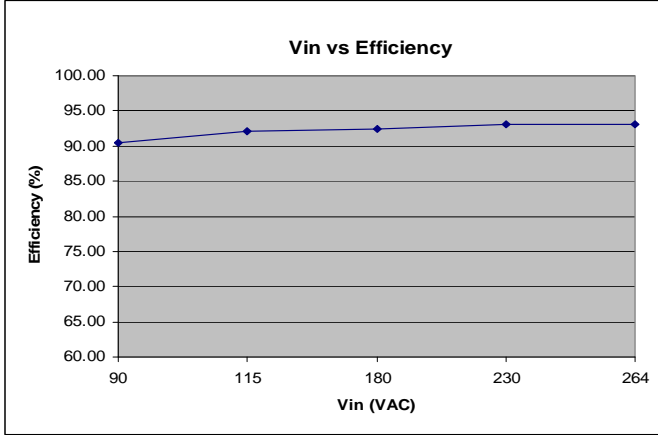
| Input Voltage (V) | 90 | 115 | 180 | 230 | 264 |
|-------------------|-------|-------|-------|-------|-------|
| Efficiency (%) | 87.03 | 88.49 | 89.45 | 89.81 | 89.89 |



| Load (%) | 10 | 20 | 30 | 40 | 50 |
|----------|-------|-------|-------|-------|-------|
| 115V (%) | 65.23 | 75.04 | 81.54 | 84.42 | 85.95 |
| 230V (%) | 63.23 | 76.35 | 81.29 | 84.36 | 86.12 |
| Load (%) | 60 | 70 | 80 | 90 | 100 |
| 115V (%) | 87.07 | 87.47 | 87.96 | 88.51 | 88.45 |
| 230V (%) | 87.88 | 88.51 | 89.17 | 89.77 | 90.01 |

EFFICIENCY VS LOAD

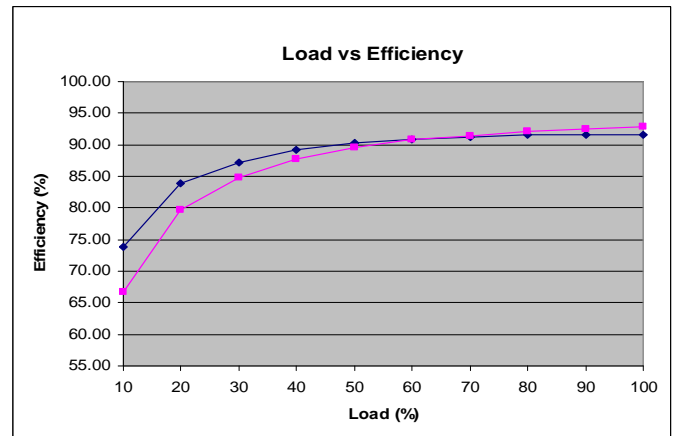
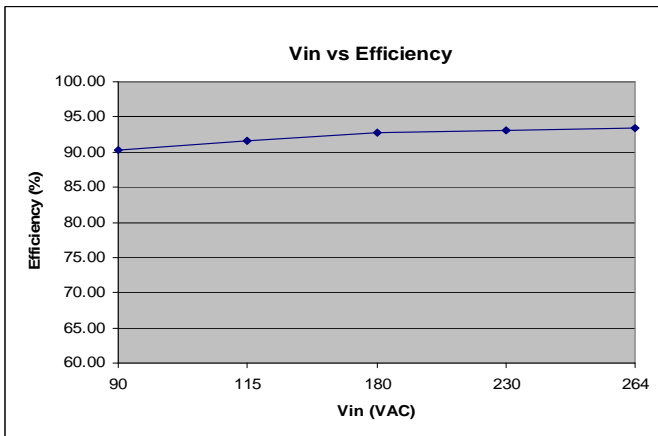
24 VDC Models



| | | | | | |
|-------------------|-------|-------|-------|-------|-------|
| Input Voltage (V) | 90 | 115 | 180 | 230 | 264 |
| Efficiency (%) | 90.53 | 92.06 | 92.44 | 93.15 | 93.13 |

| Load (%) | 10 | 20 | 30 | 40 | 50 |
|----------|-------|--------|-------|-------|-------|
| 115V (%) | 74.99 | 83.78 | 87.43 | 89.22 | 90.44 |
| 230V (%) | 65.32 | 79.51 | 85.76 | 88.32 | 90.04 |
| Load (%) | 60 | 70 | 80 | 90 | 100 |
| 115V (%) | 90.99 | 91.43 | 91.72 | 91.89 | 91.90 |
| 230V (%) | 91.08 | 91.776 | 92.23 | 92.64 | 92.85 |

48 VDC Models



| | | | | | |
|-------------------|-------|-------|-------|-------|-------|
| Input Voltage (V) | 90 | 115 | 180 | 230 | 264 |
| Efficiency (%) | 90.27 | 91.64 | 92.81 | 93.03 | 93.35 |

| Load (%) | 10 | 20 | 30 | 40 | 50 |
|----------|-------|-------|-------|-------|-------|
| 115V (%) | 73.93 | 83.86 | 87.18 | 89.22 | 90.34 |
| 230V (%) | 66.76 | 79.70 | 84.80 | 87.75 | 89.62 |
| Load (%) | 60 | 70 | 80 | 90 | 100 |
| 115V (%) | 90.82 | 91.28 | 91.53 | 91.64 | 91.64 |
| 230V (%) | 90.77 | 91.47 | 92.09 | 92.49 | 92.83 |