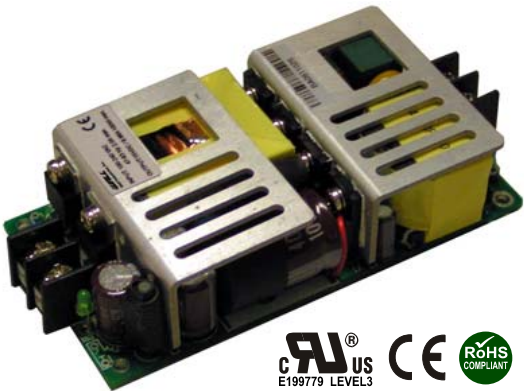


Wall Industries, Inc.

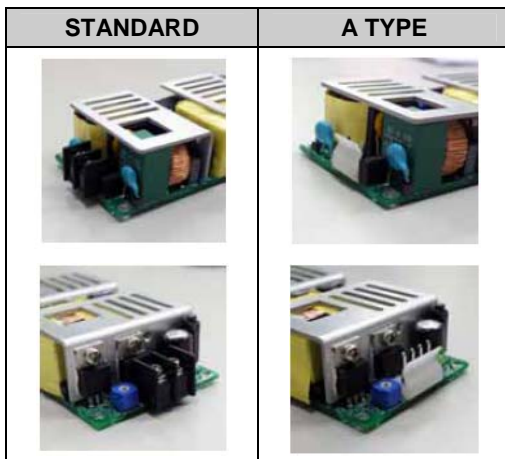
PSAQF1000 SERIES

**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
- 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

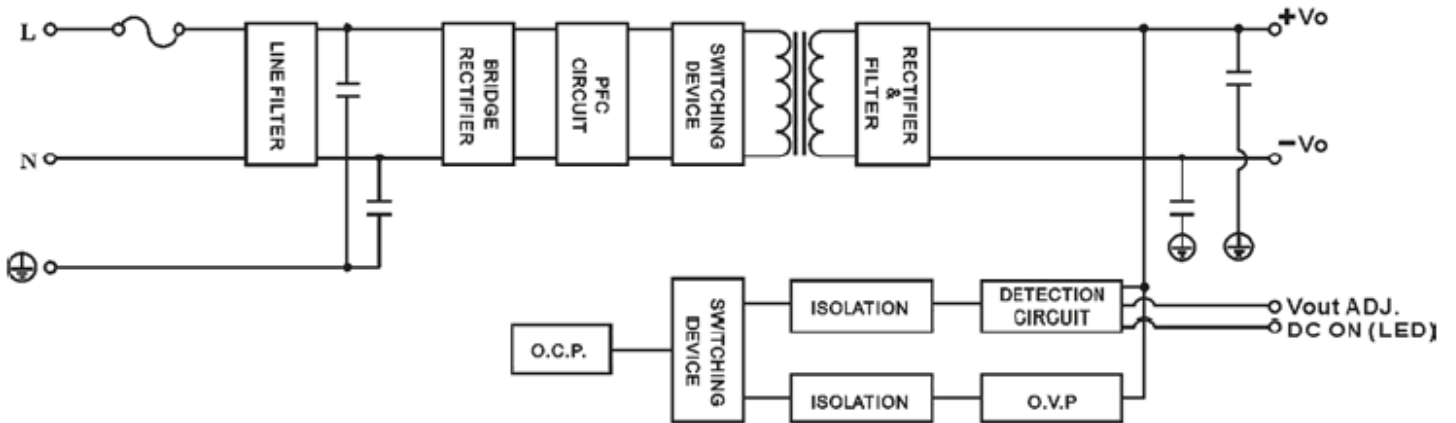
Agency Approvals	CE, UL60950-1
EMI (Conducted & Radiated Emission)	EN61000-6-3, EN 55022 class B
EMS (Noise Immunity)	EN 55024

MODEL SELECTION TABLE							
Model Number	Input Voltage	Output Voltage	Output Current	Ripple & Noise ⁽²⁾	Output Power	Maximum Capacitive Load	Efficiency
PSAQF1000-12S	90 ~ 264VAC (120 ~ 370VDC)	12 VDC	7.5A	120mVp-p	90W	7,000μF	89%
PSAQF1000-15S		15 VDC	6.66A	150mVp-p	100W	5,000μF	89%
PSAQF1000-24S		24 VDC	4.16A	200mVp-p	100W	6,000μF	92%
PSAQF1000-48S		48 VDC	2.09A	240mVp-p	100W	1,000μF	92%

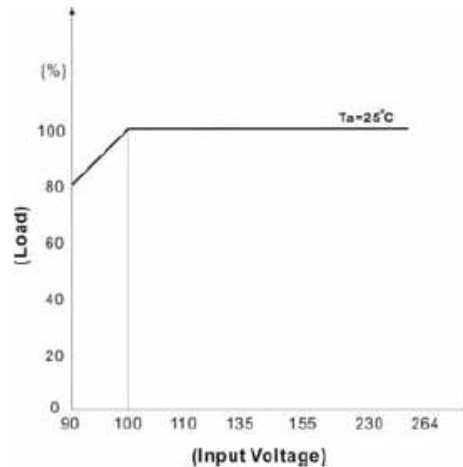
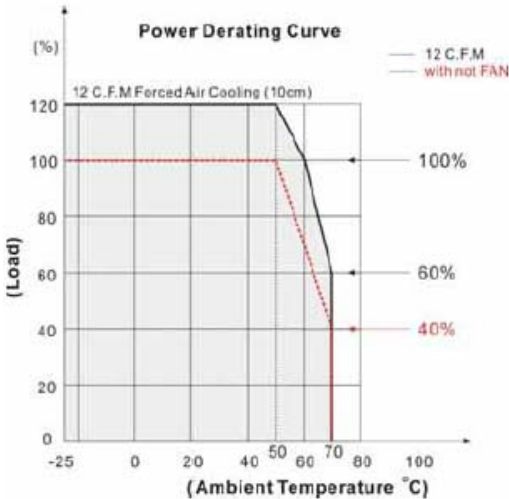
NOTES

1. I/O Connectors: For **standard type** (terminal block) do not add a suffix to the model number and for **A type** (molex) add the suffix “-A” to the model number. Ex: PSAQF1000-12S-A
2. Ripple & Noise is measured at 20MHz bandwidth with a 0.1μF and 47μF capacitors in parallel.

BLOCK DIAGRAM

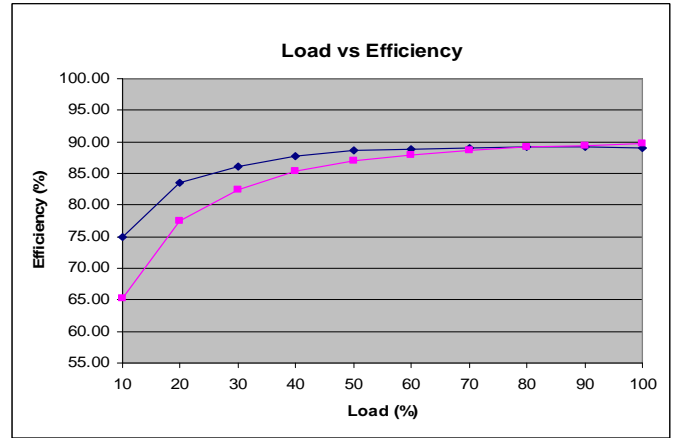
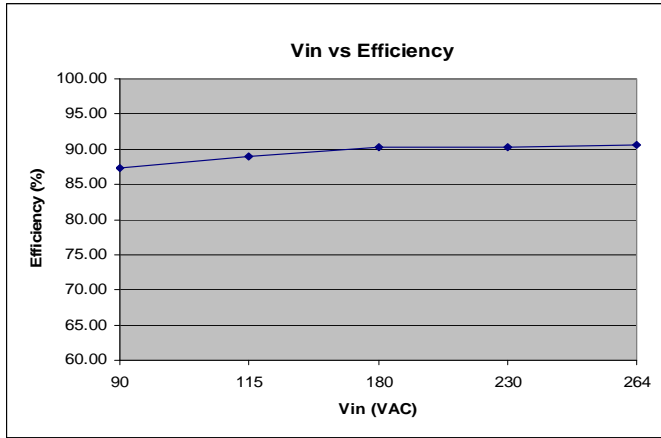


DERATING CURVES



EFFICIENCY VS LOAD

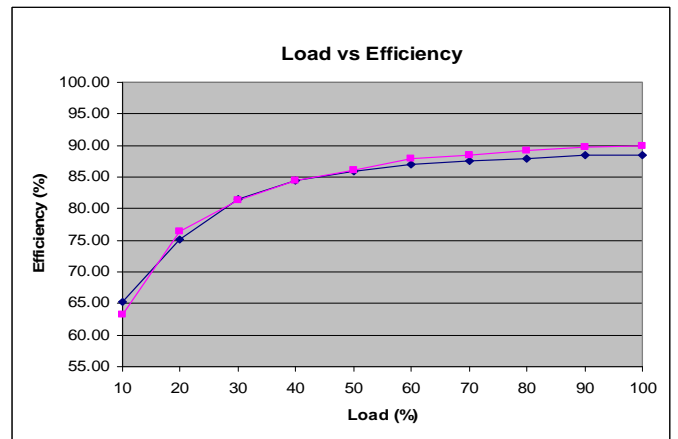
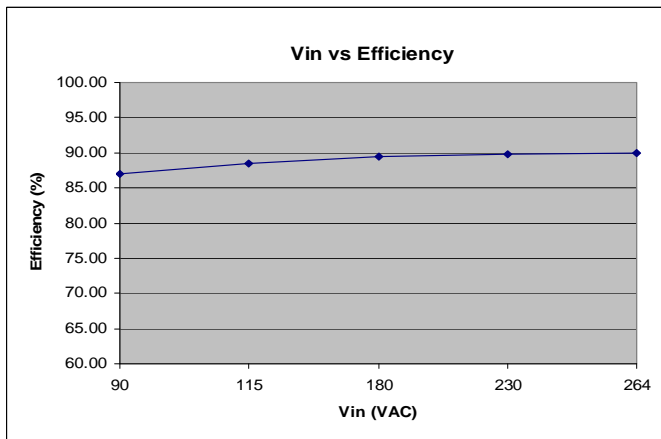
12 VDC Models



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

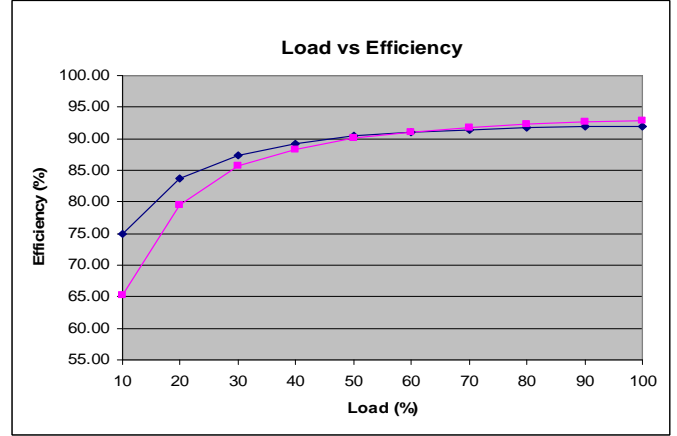
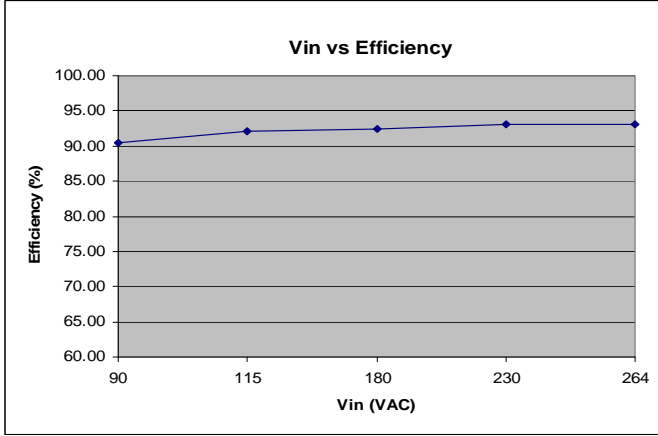


Input Voltage (V)	90	115	180	230	264
Efficiency (%)	87.03	88.49	89.45	89.81	89.89

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

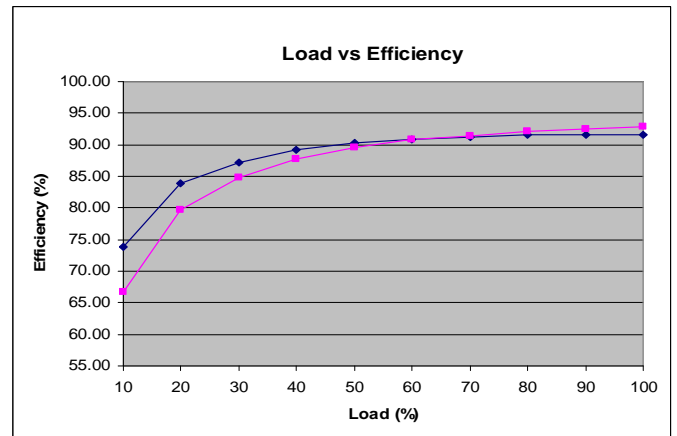
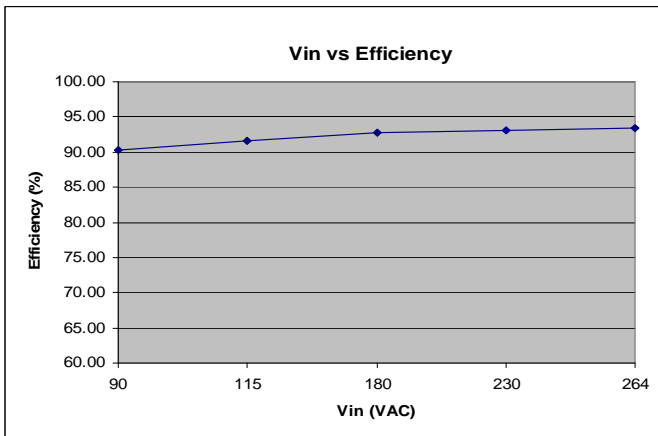
24 VDC Models



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



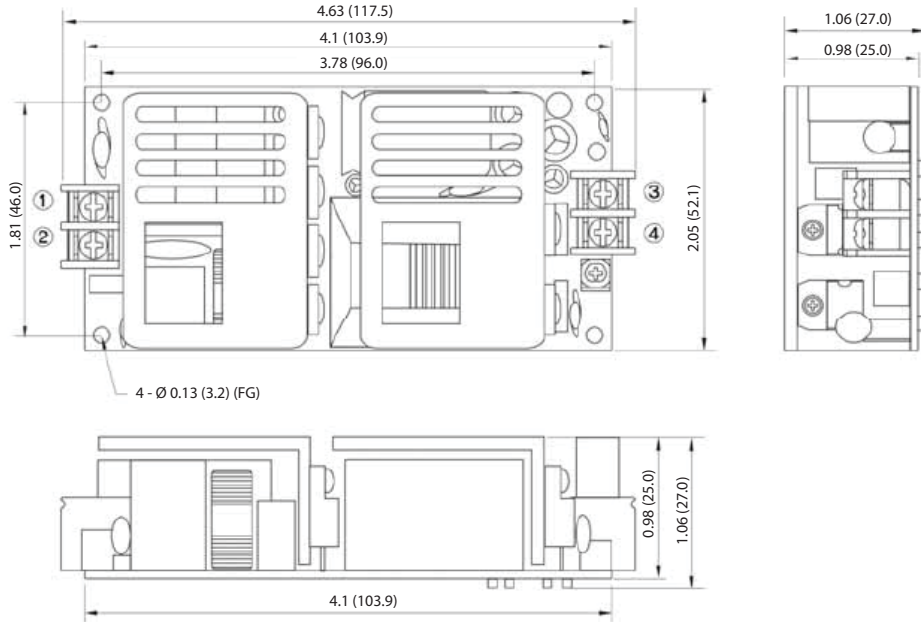
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	90.27	91.64	92.81	93.03	93.35

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

MECHANICAL DRAWINGS

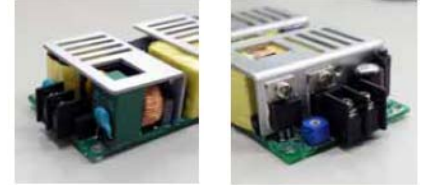
Standard

Unit: inches (mm)



Tolerance: ±0.5mm

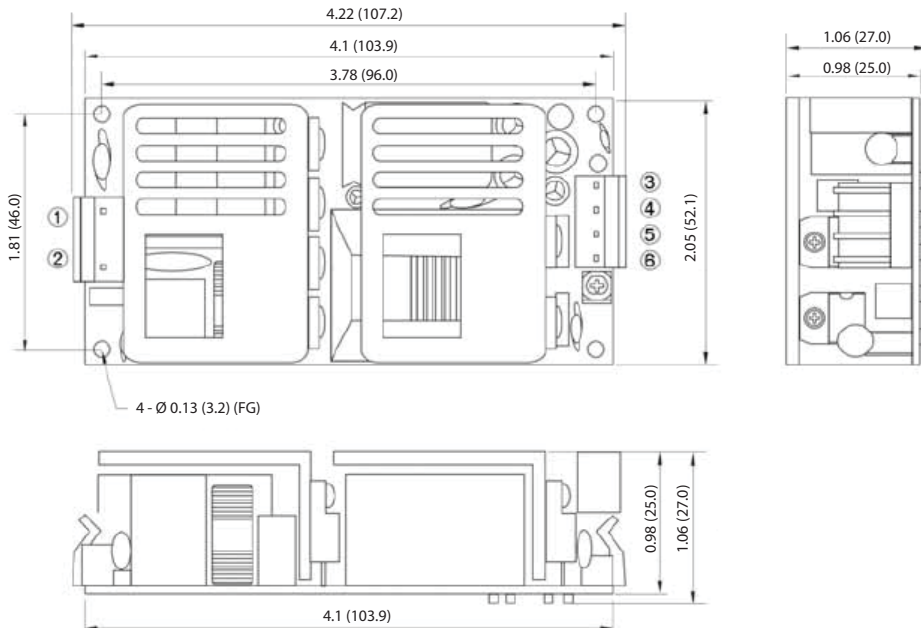
Terminal Block Type



PIN CONNECTIONS	
PIN	SINGLE OUTPUT
1	AC IN (N)
2	AC IN (L)
3	+DC OUT
4	-DC OUT
Ø 3.2 x 4	FG

A Type (Add the suffix "-A" to the model number)

Unit: inches (mm)



Tolerance: ±0.5mm

Molex Type



PIN CONNECTIONS	
PIN	SINGLE OUTPUT
1	AC IN (N)
2	AC IN (L)
3	+DC OUT
4	+DC OUT
5	-DC OUT
6	-DC OUT
Ø 3.2 x 4	FG

COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001-2008 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

Contact **Wall Industries** for further information:

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