Size:
2.76 x 1.89 x 0.87 inches
70.0 x 48.0 x 22.0 mm

FEATURES

- RoHS Compliant
- 20 Watts Output Power
- Single, Dual, and Triple Outputs
- Low Ripple & Noise
- UL/cUL, CE, and CB Approvals
- PCB Mountable Switching Power Supply
- Fully Encapsulated Plastic Case
- Universal Input Voltage Range: 90-264VAC (100-375VDC)
- Short Circuit, Over Current, and Over Voltage Protection
- Screw Terminal Mechanical Options Available

DESCRIPTION

The PSAKC series of AC/DC power supplies provides 20 watts of output power in a 2.76” x 1.89” x 0.87” encapsulated PCB mountable package. This series consists of single, dual, and triple output models with a universal input range of 90-264VAC (100-375VDC). Some features include low ripple and noise, -25°C to +70°C operating temperature range, and over current, over voltage, and short circuit protection. The PSAKC series also has two types of screw terminal mechanical options available. All models are RoHS compliant and have UL/cUL, CE, and CB safety approvals.

MODEL SELECTION TABLE

SINGLE OUTPUT MODELS

Model Number	Input Voltage	Output Voltage	Output Current		Voltage Accuracy	Line Regulation	Load Regulation (0% - 100%)	Output Power	Efficiency	Maximum Capacitive Load
			Min Load	Max Load						
PSAKC-3.3S	90~264 VAC (100~375 VDC)	3.3 VDC	0%	4500mA	±2%	0.5%	1%	14.85W	75%	25,000µF
PSAKC-5S		5 VDC	0%	4000mA	±2%	0.5%	1%	20W	79%	13,000µF
PSAKC-7.35S		7.35 VDC	0%	2730mA	±2%	0.5%	1%	20W	82%	2200µF
PSAKC-9S		9 VDC	0%	2230mA	±2%	0.5%	1%	20W	82%	1100µF
PSAKC-12S		12 VDC	0%	1670mA	±2%	0.5%	1%	20W	83%	920µF
PSAKC-15S		15 VDC	0%	1340mA	±2%	0.5%	1%	20W	83%	820µF
PSAKC-24S		24 VDC	0%	840mA	±2%	0.5%	1%	20W	84%	600µF

DUAL OUTPUT MODELS

Model Number		Input Voltage	Output Voltage	Output Current		Voltage Accuracy	Line Regulation	Load Regulation (10% - 100%)	Output Power	Efficiency	Maximum Capacitive Load
				Min Load	Max Load						
PSAKC-5D	Vo_1 Vo_2	90~264 VAC (100~375 VDC)	+5 VDC -5 VDC	0%	2000mA 2000mA	±2% ±2%	0.5% 0.5%	3% 3%	20W	79%	4300µF 4300µF
PSAKC-12D	Vo_1 Vo_2		+12 VDC -12 VDC	0%	833mA 833mA	±2% ±2%	0.5% 0.5%	3% 3%	20W	82%	560µF 560µF
PSAKC-15D	Vo_1 Vo_2		+15 VDC -15 VDC	0%	667mA 667mA	±2% ±2%	0.5% 0.5%	3% 3%	20W	82%	220µF 220µF

TRIPLE OUTPUT MODELS

Model Number		Input Voltage	Output Voltage	Output Current		Voltage Accuracy	Line Regulation	Load Regulation[2] (20% - 100%)	Output Power	Efficiency	Maximum Capacitive Load
				Min Load[1]	Max Load						
PSAKC-5S12D	Vo_1 Vo_2 Vo_3	90~264 VAC (100~375 VDC)	5 VDC +12 VDC -12 VDC	10%	2800mA 250mA 250mA	±2% ±2% ±2%	1% 5% 5%	2% 5% 5%	20W	81%	3500µF 220µF 220µF
PSAKC-5S15D	Vo_1 Vo_2 Vo_3		5 VDC +15 VDC -15 VDC	10%	2800mA 200mA 200mA	±2% ±2% ±2%	1% 5% 5%	2% 5% 5%	20W	81%	3500µF 150µF 150µF

NOTES

1. Triple output models require a minimum of 10% loading on the output to maintain specified regulations. Operation under no-load conditions will not damage these devices; however, they may not meet all listed specifications.

2. Load regulation for triple output models:
Main output (V1): 20% to 100% with 20% to 100% balanced on auxiliaries.
Auxiliary outputs (V2 & V3): 20% to 100% balanced on all outputs.

3. Cross regulation for dual output models: asymmetrical load 25% / 100% FL

4. Cross regulation for triple output models:
Main output 100% load, auxiliary 100%, other auxiliary 25% to 100%.
Auxiliary outputs (V2 & V3): Main output 100% load, auxiliary 100%, other auxiliary 25% to 100% or main output 25%, auxiliary 25%, other auxiliary 25% to 100%.

5. Screw terminal mechanical options available (see page 4). Please call factory for ordering details.

6. This product is Listed to applicable standards and requirements by UL.

**Due to advances in technology, specifications subject to change without notice.*

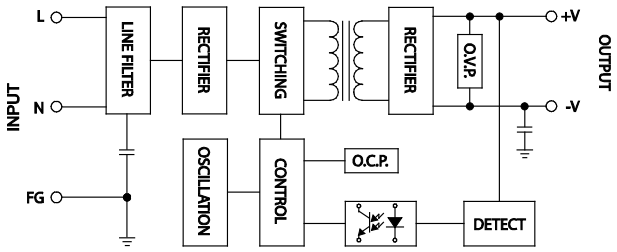
SPECIFICATIONS: PSAKC SERIES

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.

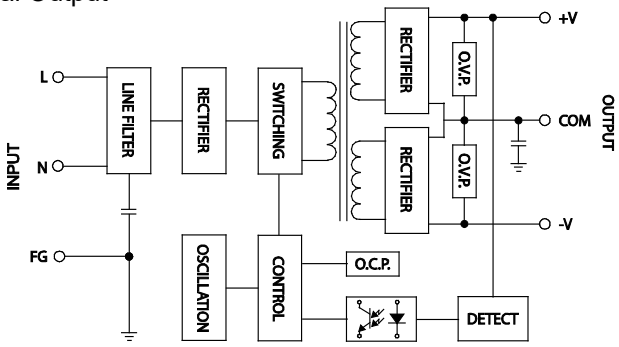
SPECIFICATION		TEST CONDITIONS	Min	Typ	Max	Unit
INPUT SPECIFICATIONS						
Input Voltage		AC input voltage range	90		264	VAC
		DC input voltage range	100		375	VDC
Input Frequency			47		440	Hz
Input Current		At 115VAC and full load			400	mA
		At 230VAC and full load			270	
Inrush Current (<2ms)		At 115VAC			30	A
		At 230VAC			50	
No Load Power Consumption		At 230VAC			< 0.5	W
External Fuse (recommended)			2A slow blow type			
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Accuracy			See Table			
Line Regulation		Low Line to High Line	See Table			
Load Regulation			See Table			
Cross Regulation			See Notes 3 & 4			
Output Power					20	W
Output Current			See Table			
Minimum Load			See Table			
Ripple & Noise	Ripple	Measured at 20MHz BW with 0.1µF and 47µF capacitors in parallel	< 0.2% Vout +40mV max.			Vp-p
	Noise		< 0.5% Vout +50mV max.			
Max Capacitive Load			See Table			
Hold-Up Time			13			ms
Temperature Coefficient				±0.02		%/°C
PROTECTION						
Short Circuit Protection			Hiccup mode, indefinite (auto-recovery)			
Over Voltage Protection			Zener diode clamp			
Over Current Protection			Above 105% rated output power			
GENERAL SPECIFICATIONS						
Efficiency			See Table			
Switching Frequency				100		KHz
Isolation Voltage	Input to Output		3000			VAC
	Input to FG		3000			
	Output to FG		500			
Leakage Current				0.25		mA
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature		With derating (see derating curve)	-25		+70	°C
Storage Temperature			-40		+85	°C
Humidity					95	% RH
Cooling			Free air convection			
MTBF		25°C (MIL-HDBK-217F)	200,000			hours
PHYSICAL SPECIFICATIONS						
Weight			3.88oz (110g)			
Case Material			Plastic resin + fiberglass (Flammability to UL 94V-0)			
Dimensions (L x W x H)			2.76 x 1.89 x 0.87 inches (70.0 x 48.0 x 22.0 mm)			
SAFETY & EMC						
Safety Approvals			UL/cUL[6], CE, CB			
EMC		EMI (Conducted and Radiated Emissions)	EN 55022 Class B			
		EMS (Noise Immunity)	EN 55024			

BLOCK DIAGRAMS

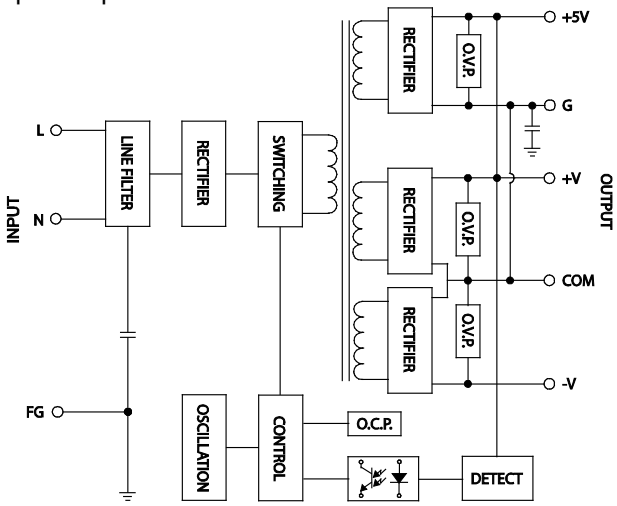
Single Output



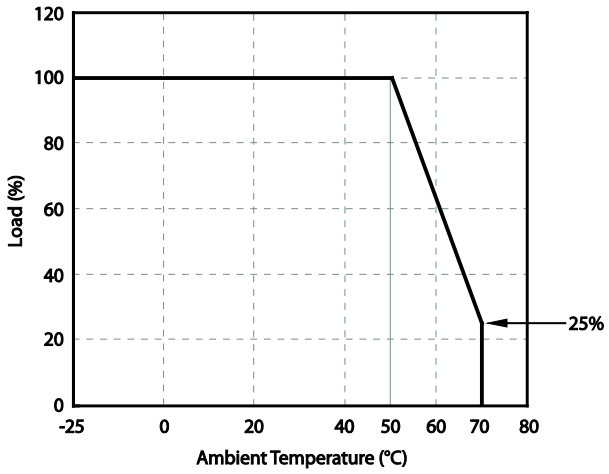
Dual Output



Triple Output

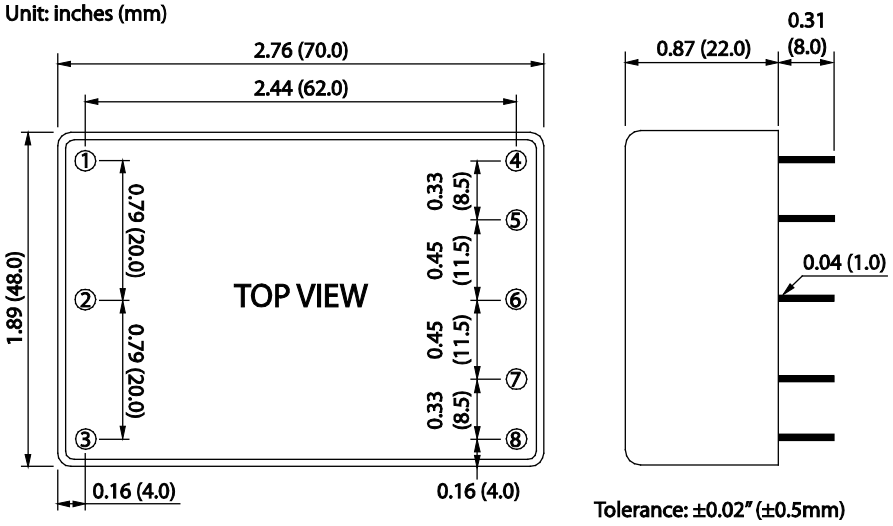


DERATING CURVE



MECHANICAL DRAWING

Unit: inches (mm)



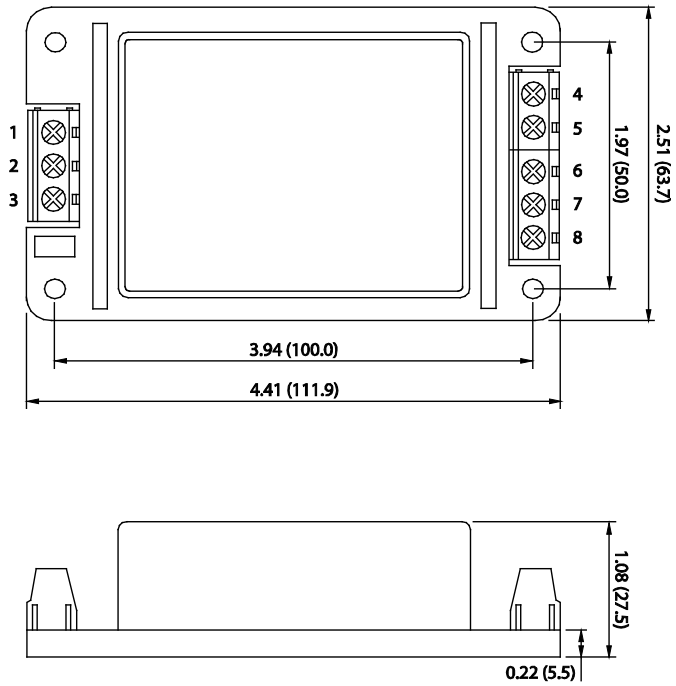
PIN CONNECTIONS			
PIN	SINGLE	DUAL	TRIPLE
1	FG	FG	FG
2	AC IN (N)	AC IN (N)	AC IN (N)
3	AC IN (L)	AC IN (L)	AC IN (L)
4	NO PIN	NO PIN	-DC OUT
5	-DC OUT	-DC OUT	COMMON
6	NO PIN	COMMON	+DC OUT
7	+DC OUT	+DC OUT	+5V RTN
8	NO PIN	NO PIN	+5V OUT

SCREW TERMINAL OPTIONS

PSAKC-A2

PIN CONNECTIONS			
PIN	SINGLE	DUAL	TRIPLE
1	FG	FG	FG
2	AC IN (N)	AC IN (N)	AC IN (N)
3	AC IN (L)	AC IN (L)	AC IN (L)
4	NO CONNECT	NO CONNECT	-DC OUT
5	-DC OUT	-DC OUT	COMMON
6	NO CONNECT	COMMON	+DC OUT
7	+DC OUT	+DC OUT	+5V RTN
8	NO CONNECT	NO CONNECT	+5V OUT

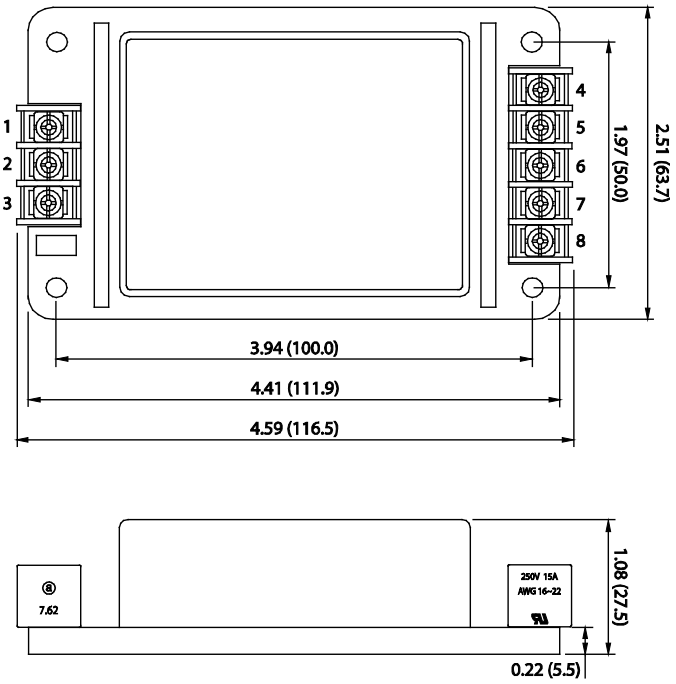
Unit: inches (mm)



PSAKC-A5

PIN CONNECTIONS			
PIN	SINGLE	DUAL	TRIPLE
1	FG	FG	FG
2	AC IN (N)	AC IN (N)	AC IN (N)
3	AC IN (L)	AC IN (L)	AC IN (L)
4	NO CONNECT	NO CONNECT	-DC OUT
5	-DC OUT	-DC OUT	COMMON
6	NO CONNECT	COMMON	+DC OUT
7	+DC OUT	+DC OUT	+5V RTN
8	NO CONNECT	NO CONNECT	+5V OUT

Unit: inches (mm)



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: 2015 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.

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