Wall Industries, Inc.

DATASHEET
Rev. D

PSGE100 SERIES

88~264VAC (125~373VDC) Input
Single Outputs
Up to 110 Watts Output Power
AC/DC Switching Power Supplies

FEATURES

- Single Output
- RoHS Compliant
- Universal AC Input / Full Range
- High Efficiency, Long Life, and High Reliability
- ±10% Output Voltage Adjustability
- Green Design, No-load Power Consumption < 0.5W
- Energy Star Compliant
- Cooling by Free Air Convection
- Power ON with LED Indicator
- All Using 105°C Long Life Electrolytic Capacitors
- High Operating Temperature: -25°C to +70°C
- 100% Full Load Burn-In Tested
- Withstand 5G Vibration Test
- Brown-out (Low AC Input Voltage) Protection
- Over Voltage, Over Load, and Short Circuit Protection
- UL 60950-1 and TUV EN60950-1 Safety Approvals

DESCRIPTION

The PSGE100 series of AC/DC switching power supplies offers up to 110 Watts of output power in a 5.10" x 3.84" x 1.48" enclosed case. This series has a universal input voltage range of 88~264VAC (125~373VDC) and single outputs of 3.3, 5, 12, 15, 24, and 48VDC. Some features include high efficiency up to 89%, ±10% output adjustability, no-load power consumption < 0.5W, and a wide operating temperature range of -25°C to +70°C. This series also has over voltage, short circuit, over load, and brown-out (low AC input voltage) protection. All models have been 100% full load burn-in tested and are RoHS and Energy Star compliant. This series also has UL 60950-1, TUV EN60950-1, and CE safety approvals.

SPECIFICATIONS: PSGE100 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.

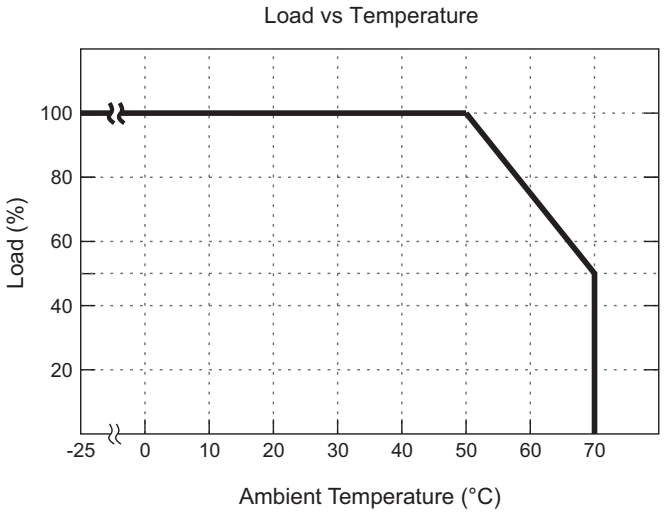
INPUT SPECIFICATIONS		
Input Voltage Range		88 ~ 264VAC 125 ~ 373VDC (Withstand 300VAC surge for 5 seconds without damage)
Input Frequency		50Hz / 60Hz
AC Current		2.5A typ. at 115VAC; 1.4A typ. at 230VAC
Inrush Current		Cold Start 40A typ. at 230VAC
OUTPUT SPECIFICATIONS		
Output Voltage		See Table
Output Power		See Table
Output Voltage Adjustability		±10%
Voltage Tolerance *(see note 2)*		3.3 VDC Output Model: ±3% 5 VDC Output Model: ±2% 12~48 VDC Output Models: ±1%
Load Regulation *(see note 3)*		See Table
Line Regulation		±0.5% (measured from low line to high line at full load)
Output Current		See Table
Ripple & Noise *(see note 1)*		See Table
Setup, Rise Time *(see note 5)*		1000ms, 80ms at 115VAC and full load 800ms, 80ms at 230VAC and full load
Hold-Up Time		>10ms at 115VAC and full load; >32ms at 230VAC and full load
Temperature Coefficient		±0.03% / °C (0~50°C)
PROTECTION		
Short Circuit Protection		yes
Over Voltage Protection		3.3VDC Output Model: 115% ~ 175% rated output voltage 5~48VDC Output Models: 115% ~ 150% rated output voltage Protection type: latch-off mode
Over Load Protection		>110% rated output power Protection Type: hiccup mode; recover automatically after fault condition is removed
Brown-Out Protection (Low AC Input Voltage)		yes
GENERAL SPECIFICATIONS		
Efficiency		See Table
Withstand Voltage	Input to Output	3000VAC (4242VDC) for 1 minute
	Input to FG	1500VAC (2121VDC) for 1 minute
	Output to FG	500VAC (707VDC) for 1 minute
Isolation Resistance		100MΩ at 500VDC (input to output, input to FG, output to FG)
Leakage Current		< 2mA at 240VAC
ENVIRONMENTAL SPECIFICATIONS		
Working Temperature		-25°C to +70°C (see derating curve)
Storage Temperature		-40°C to +85°C
Working Humidity		20% to 90% RH (non-condensing)
Storage Humidity		10% to 95% RH
Vibration		10 ~ 500Hz, 5G 10min/1cycle, period for 60 minutes each along X,Y,Z axes.
Cooling		Free air convection
MTBF		206,000 hours (Compliance: MIL-HDBK-217F)
PHYSICAL SPECIFICATIONS		
Weight, Packing		1lb (450g); 30pcs/15kg
Dimensions (L x W x H)		5.10 x 3.84 x 1.48 inches (129.50 x 97.50 x 37.50 mm)
SAFETY & EMC *(see note 6)*		
Safety Standards		UL60950-1, 2nd Edition, TUV EN60950-1: 2006+A11 Approved
EMI Conduction & Radiation		EN55022: 1998+A1: 2000+A2: 2003 Class B
Harmonic Current		EN61000-3-2: 2000 + A2: 2005 Class A, EN61000-3-3: 1995+A1: 2001
EMS Immunity		EN61204-3: 2000, EN55024: 1998+A1: 2001+A2: 2003 light industry level, criteria A

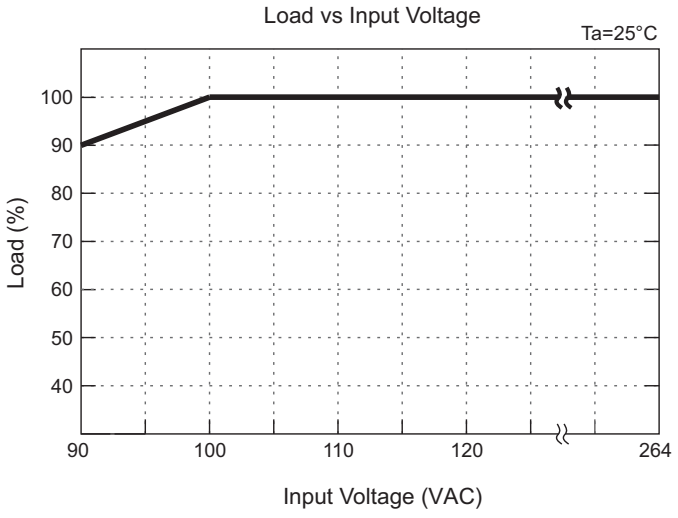
MODEL SELECTION TABLE							
Model Number	**Input Voltage Range**	**Output Voltage**	**Output Current**	**Load [3] Regulation**	**Output [1] Ripple & Noise**	**Output Power**	**Efficiency [4]**
PSGE-100-3.3	88 ~ 264 VAC (125 ~ 373 VDC)	3.3 VDC	20A	±3.0%	150mVp-p	66W	79%
PSGE-100-5		5 VDC	16A	±2.0%	150mVp-p	80W	83%
PSGE-100-12		12 VDC	8.5A	±0.5%	150mVp-p	102W	86%
PSGE-100-15		15 VDC	7A	±0.5%	150mVp-p	105W	88%
PSGE-100-24		24 VDC	4.5A	±0.5%	150mVp-p	108W	88%
PSGE-100-48		48 VDC	2.3A	±0.5%	200mVp-p	110W	89%

NOTES

1. Ripple & noise is measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with a 0.1μF capacitor and a 47μF capacitor in parallel.
2. Tolerance includes set up tolerance, line regulation, and load regulation.
3. Load regulation is measured from 0% to 100% full load.
4. Typical value at 230VAC input voltage.
5. The length of the setup time is measured at first cold start; turning the power supply ON and OFF very quickly may lead to an increase in the setup time.
6. The power supply is considered a component which will be installed into final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

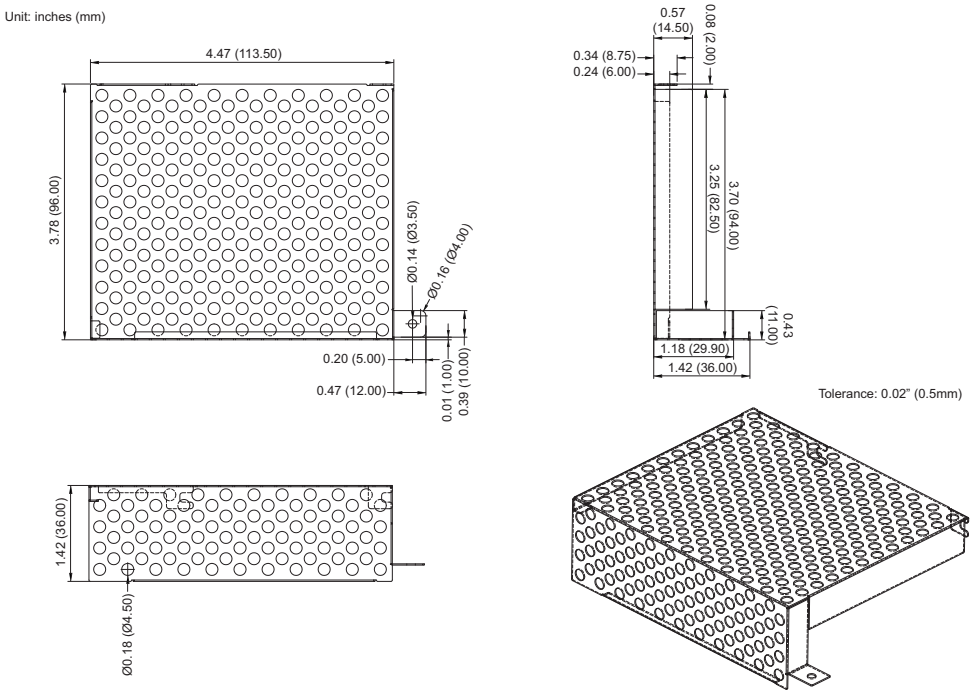
DERATING CURVES





MECHANICAL DRAWINGS

TOP OF CASE



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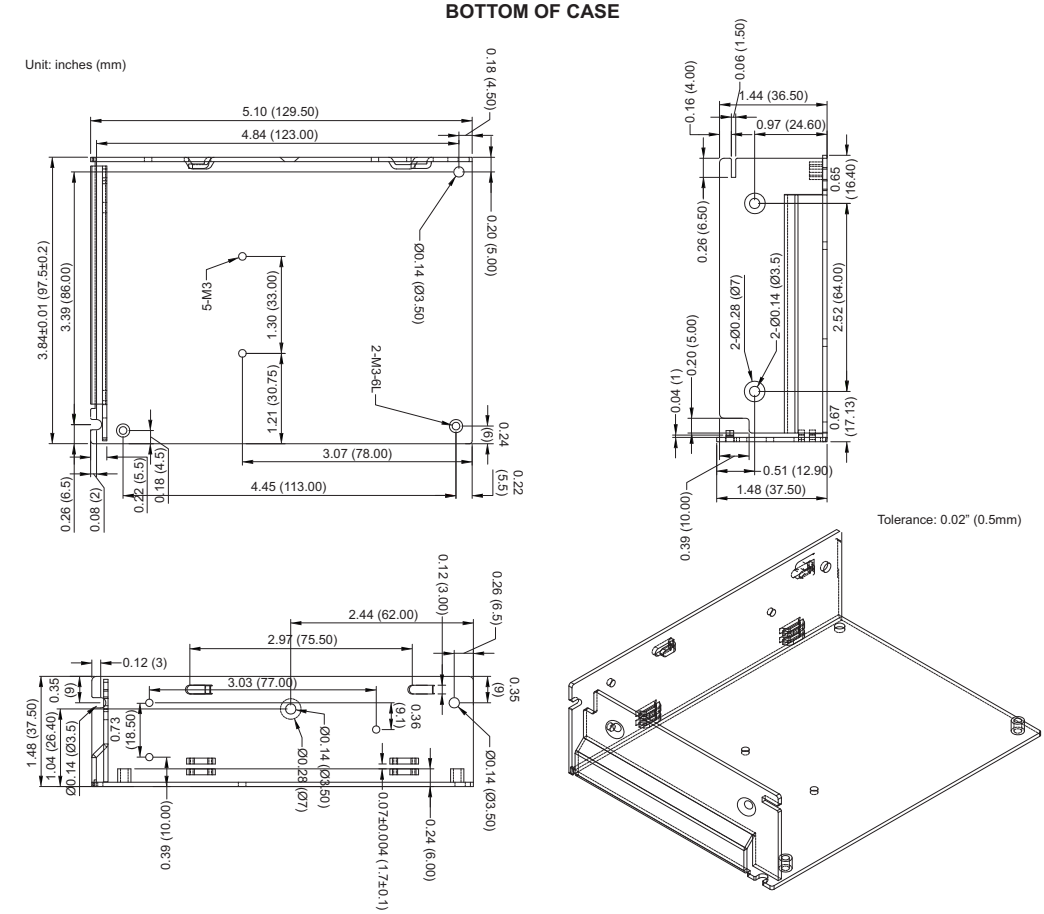
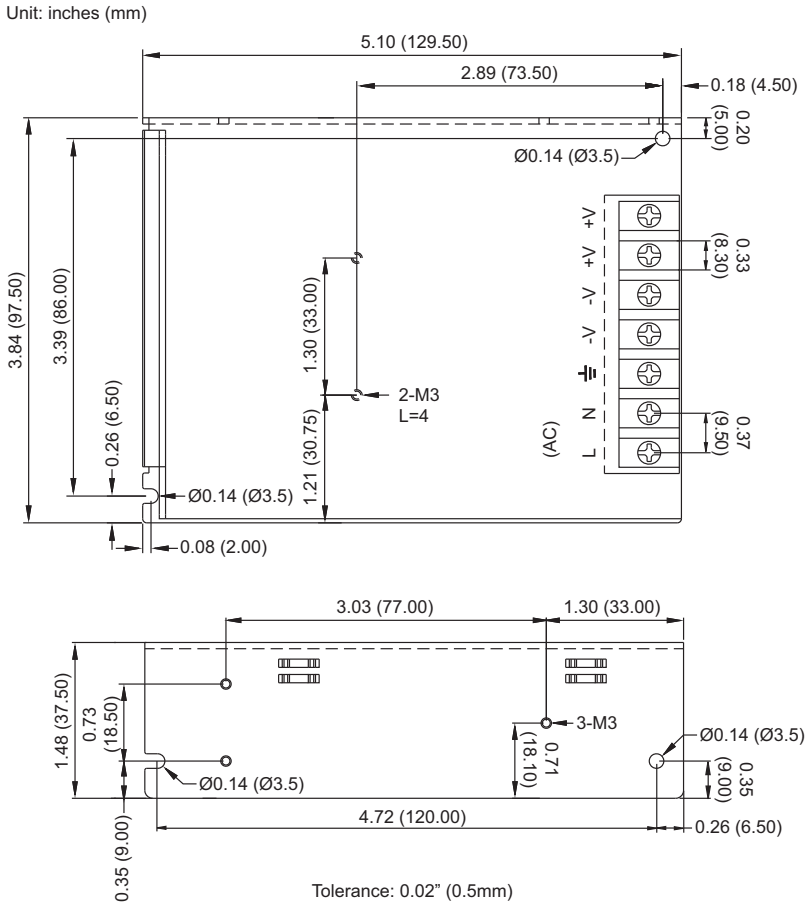


MECHANICAL DRAWING



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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