

Wall Industries, Inc.

PSPSD-20 SERIES

85~264VAC Input Voltage Range
Single Outputs
20 Watts Output Power
AC/DC Switching Power Supply



FEATURES

- Single Outputs
 - RoHS Compliant
 - Universal AC Input Range (Full Range)
 - High Efficiency and High Reliability
 - Over Voltage, Over Load, and Short Circuit Protected
 - Wide Operating Ambient Temperature (-20°C to +60°C)
 - 20W Output Power
 - 100% Full Load Burn-in Tested
 - Output Voltages Available from 5VDC to 48VDC
 - Ultra-Miniature Size, Low Profile: 3.50" x 2.01" x 0.79"
 - ±10% Output Voltage Adjustability
 - All Using 105°C Long Life Electrolytic Capacitors
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DESCRIPTION

The PSPSD-20 series of AC/DC switching power supplies offers 20 Watts of output power in a 3.50" x 2.01" x 0.79" low profile open frame package. All models have a single output and a universal AC input voltage range of 85~264VAC. Some features include wide operating temperature range (-20°C to +60°C), ±10% output adjustability, and over load, over voltage, and short circuit protection. These supplies are RoHS and UL94V0 compliant and have UL/cUL, CB, and CE safety approvals. All models are 100% full load burn-in tested.

SPECIFICATIONS: PSPSD-20 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 | 85~264VAC |
| Input Frequency | 47~63Hz |
| AC Current | 0.5A max. |
| Inrush Current | Cold Start 20A typ. at 115VAC; 40A typ. at 230VAC |

OUTPUT SPECIFICATIONS

| | |
|--------------------------------------|--|
| Output Voltage | See Table |
| Voltage Accuracy | ±2.0% |
| Voltage Adjustment Range | ±10% of rated output voltage |
| Line Regulation | ±0.5% |
| Load Regulation | ±2.0% |
| Output Current | See Table |
| Ripple & Noise (<i>See Note 1</i>) | See Table |
| Setup Time | < 2.0s at 115VAC and full load; < 1.0s at 230VAC and full load |
| Hold Up Time | > 10ms at 115VAC and full load; > 20ms at 230VAC and full load |
| Temperature Coefficient | ±0.03%/°C |
| Overshoot and Undershoot | < 5.0% |

PROTECTION

| | |
|--------------------------|---|
| Over Load Protection | 105% ~ 150% of rated output power, hiccup mode, auto-recovery |
| Over Voltage Protection | 110% ~ 140% of rated output voltage, constant voltage |
| Short Circuit Protection | Long-term mode, auto-recovery |

GENERAL SPECIFICATIONS

| | | |
|----------------------|----------------------|-----------------|
| Efficiency (typical) | See Table | |
| Withstand Voltage | Primary to Secondary | 3000VAC; ≤ 10mA |
| | Primary to PG | 1500VAC; ≤ 10mA |
| | Secondary to PG | 500VDC; ≤ 10mA |
| Isolation Resistance | ≥ 100MΩ | |
| Leakage Current | Input to Output | < 0.35mA |
| | Input to PG | < 0.75mA |

ENVIRONMENTAL SPECIFICATIONS

| | |
|-------------------------------|--------------------------------------|
| Operating Ambient Temperature | -20°C to +60°C |
| Storage Temperature | -40°C to +85°C |
| Working Humidity | 20 ~ 90% RH (non-condensing) |
| Storage Humidity | 10 ~ 95% RH (non-condensing) |
| Cooling Method | Free air convection |
| MTBF (MIL-HDBK-217F) | > 100,000 hours @ 25°C and full load |

PHYSICAL SPECIFICATIONS

| | |
|------------------------|---|
| Dimensions (L x W x H) | 3.50 x 2.01 x 0.79 inches (89 x 51 x 20 mm) |
| Packing | 60PCS/CTN, 7.6Kgs, 0.017CBM |
| Flammability | UL94V0 |

SAFETY & EMC (*See Note 2*)

| | |
|------------------------------|--|
| Safety Standards | UL60950-1, EN60950-1: 2006 |
| EMI Conduction and Radiation | Compliance to EN55022 (CISPR22) Class B |
| Harmonic Current | Compliance to EN61000-3-2, 17625.1-2003 |
| EMS Immunity | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, light industry level, criteria A |

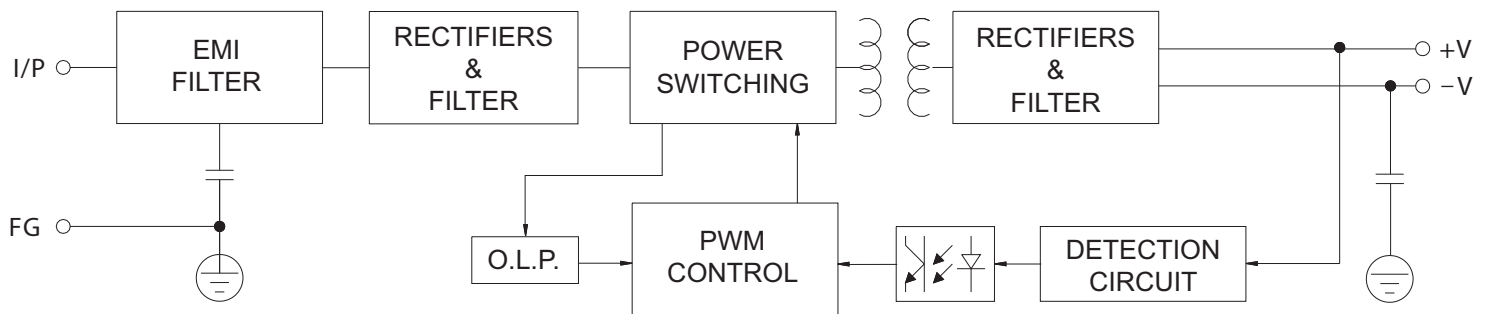
MODEL SELECTION TABLE

| Model Number | Input Voltage | Output Voltage | Output Current | Ripple & Noise ⁽¹⁾ | | Output Power | Efficiency | |
|--------------|---------------|----------------|----------------|-------------------------------|-----------|--------------|------------|--------|
| | | | | -10°C~0°C | 0°C~+50°C | | 115VAC | 230VAC |
| PSPSD-20-5 | 85 ~ 264 VAC | 5 VDC | 4A | 75mVp-p | 50mVp-p | 20W | 72% | 72% |
| PSPSD-20-12 | | 12 VDC | 1.67A | 120mVp-p | 120mVp-p | 20W | 78% | 78% |
| PSPSD-20-15 | | 15 VDC | 1.34A | 100mVp-p | 100mVp-p | 20W | 80% | 80% |
| PSPSD-20-24 | | 24 VDC | 0.84A | 100mVp-p | 100mVp-p | 20W | 78% | 76% |
| PSPSD-20-48 | | 48 VDC | 0.42A | 100mVp-p | 100mVp-p | 20W | 78% | 78% |

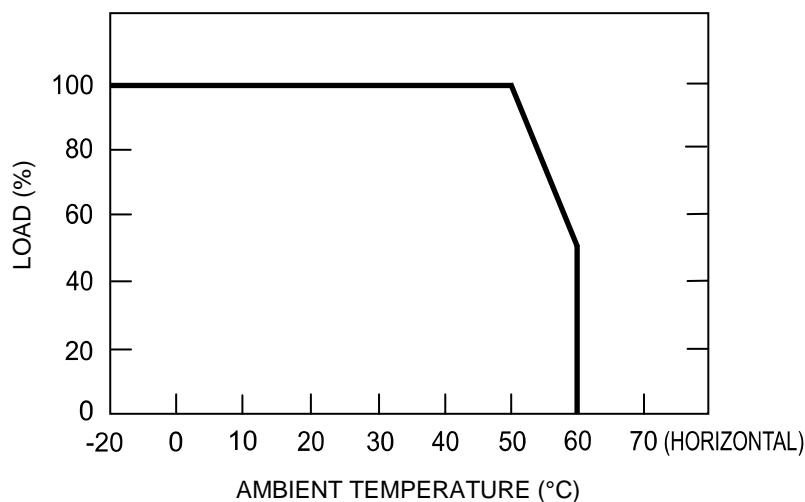
NOTES

1. Ripple & noise is measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with 0.1μF and 47μF capacitors in parallel.
2. The SPS is considered a component which will be installed into final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

BLOCK DIAGRAM

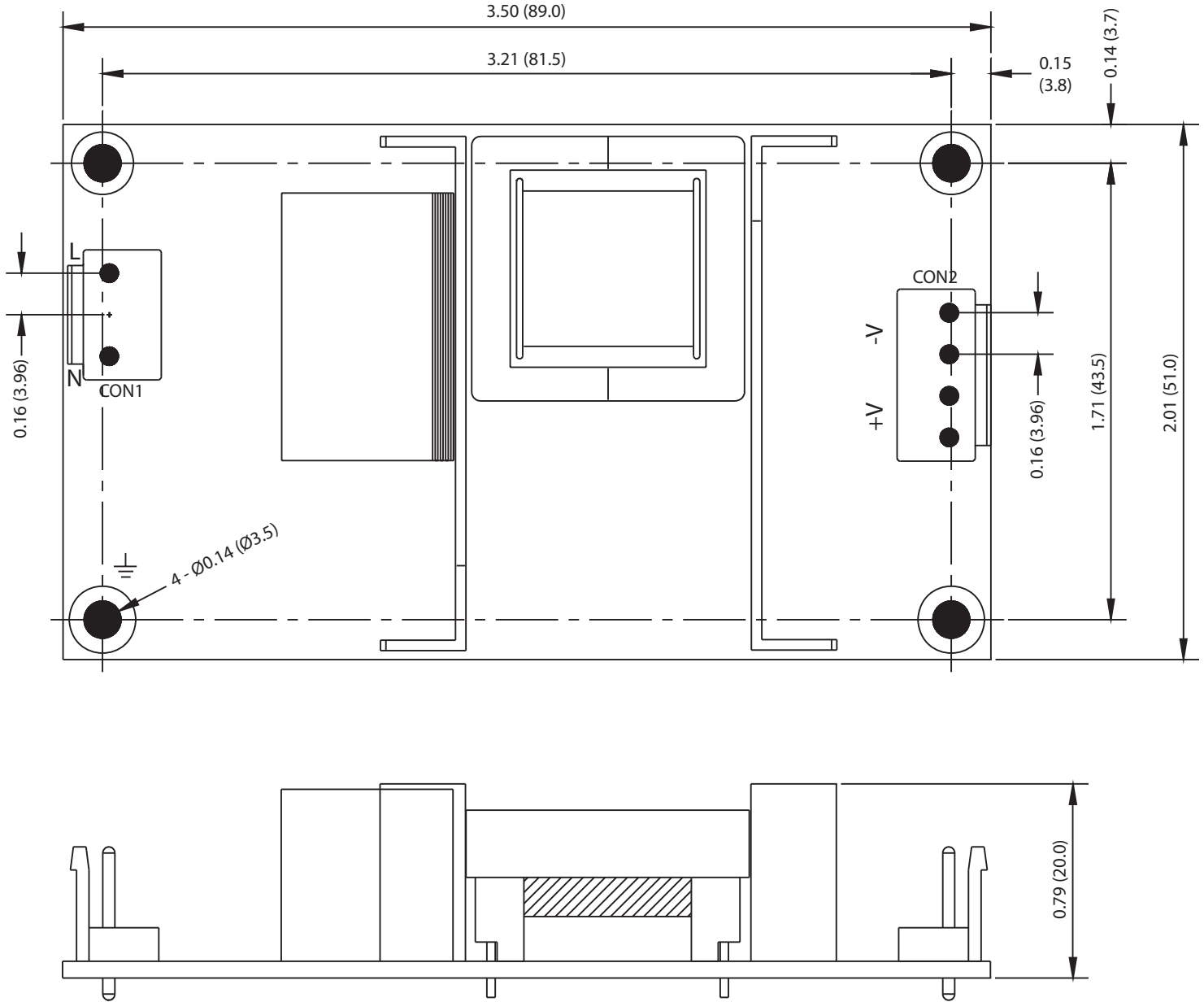


DERATING CURVE



MECHANICAL DRAWING

Unit: inches (mm)



| Item | Connectors | Mating Housing | Contacts |
|---------------|--|--|---|
| AC IN (CON1) | LANDWIN 3961P0300T (central pin removed) or Molex 53520-0320 (central pin removed) | LANDWIN 3960S or JST VHR or Molex 51144 | LANDWIN 3963T011R or JST SVH-21T-P1.1 or Molex 50539 |
| DC OUT (CON2) | LANDWIN 3961P0400T or Molex 53520-0420 | | |

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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|-------------------|--|
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