

Open Frame (Suffix "O")



Size: 5.00 x 3.00 x 1.36 in

U-Chassis (Suffix "U")



Size: 5.00 x 3.17 x 1.57 in

**FEATURES**

- RoHS Compliant
- Dual to Quad Outputs
- High Efficiency up to 80%
- 120 Watts with Convection Cooling
- 150 Watts with Forced Air Cooling
- 90~264 VAC Input Voltage Range
- Short Circuit, Over Load, Over Voltage, and Over Temperature Protection
- Built-in Active PFC Function
- UL60950-1, UL62368-1, CSA 22.2 No.60950-1, CSA 22.2 No3 62368-1, Nemko EN60950-1, TUV EN62368-1, CB IEC60950-1, and CB IEC6236-1 Safety Approvals
- Open Frame and U-Chassis Mechanical Options Available

**DESCRIPTION**

The PSPWX150 series of AC/DC switching power supplies provides 120 Watts of output power with convection cooling and 150 Watts with 30CFM forced air. This series consists of dual, triple, and quad output models with a 90-264VAC input voltage range. These supplies also feature a high efficiency up to 80% and a power factor > 0.9 at 230VAC. These supplies are also protected against short circuit, over load, over voltage, and over temperature conditions. The PSPWX150 series has UL60950-1, UL62368-1, CSA 22.2 No.60950-1, CSA 22.2 No3 62368-1, Nemko EN60950-1, TUV EN62368-1, CB IEC60950-1, and CB IEC6236-1 safety approvals. This series is also CE marked and meets EN55024, EN55032 Class B, CISPR22 Class B, and FCC Part 15 Class B EMC standards. Both open frame and U-chassis mechanical options are available for this series.

**MODEL SELECTION TABLE**

**DUAL OUTPUT MODELS**

Model Number <sup>(1)</sup>	Input Voltage	Output Voltage	Min. Load	Convection <sup>(3)</sup>			30CFM Forced Air <sup>(3)</sup>			Total Regulation	Ripple & Noise <sup>(2)</sup>	
				Max Load	Combined Load Max.	Max Power	Max Load	Combined Load Max.	Max Power			
PSPW150B-2Y01-X	V2 V1	90~264VAC	+12 VDC	0.15A	6A	-	120W	7.5A	-	150W	±5%	120mVp-p
			+24 VDC	0.15A	3.5A			4.5A			±5%	240mVp-p
PSPW150B-2Y02-X	V2 V1	90~264VAC	+5 VDC	0A	10A	-	120W	12A	-	150W	±5%	50mVp-p
			+24 VDC	0.15A	3.5A			4.5A			±5%	240mVp-p
PSPW150B-2Y03-X	V2 V1	90~264VAC	+5 VDC	0A	10A	-	120W	12A	-	150W	±5%	50mVp-p
			+12 VDC	0.15A	6A			7.5A			±5%	120mVp-p

**TRIPLE OUTPUT MODELS**

Model Number <sup>(1)</sup>	Input Voltage	Output Voltage	Min. Load	Convection <sup>(3)</sup>			30CFM Forced Air <sup>(3)</sup>			Total Regulation	Ripple & Noise <sup>(2)</sup>	
				Max Load	Combined Load Max.	Max Power	Max Load	Combined Load Max.	Max Power			
PSPW150B-3Y01-X	V3 V2 V1	90~264VAC	+5 VDC	0A	10A	75W	120W	12A	90W	150W	±5%	50mVp-p
			+12 VDC	0.15A	6A			7.5A			±5%	120mVp-p
			+24 VDC	0.15A	3.5A			4.5A			±5%	240mVp-p
PSPW150B-3Y02-X	V3 V2 V1	90~264VAC	+3.3 VDC	0A	10A	75W	120W	12A	90W	150W	±5%	50mVp-p
			+5 VDC	0A	10A			12A			±5%	50mVp-p
			+12 VDC	0.15A	6A			7.5A			±5%	120mVp-p
PSPW150B-3Y03-X	V3 V2 V1	90~264VAC	+3.3 VDC	0A	10A	75W	120W	12A	90W	150W	±5%	50mVp-p
			+5 VDC	0A	10A			12A			±5%	50mVp-p
			+24 VDC	0.15A	3.5A			4.5A			±5%	240mVp-p

**QUAD OUTPUT MODELS**

Model Number <sup>(1)</sup>	Input Voltage	Output Voltage	Min. Load	Convection <sup>(3)</sup>			30CFM Forced Air <sup>(3)</sup>			Total Regulation	Ripple & Noise <sup>(2)</sup>	
				Max Load	Combined Load Max.	Max Power	Max Load	Combined Load Max.	Max Power			
PSPW150B-4Y01-X	V4 V3 V2 V1	90~264VAC	+3.3 VDC	0A	10A	75W	120W	12A	90W	150W	±5%	50mVp-p
			+5 VDC	0A	10A			12A			±5%	50mVp-p
			+12 VDC	0.15A	6A			7.5A			±5%	120mVp-p
			+24 VDC	0.15A	3.5A			4.5A			±5%	240mVp-p
PSPW150B-4Y02-X	V4 V3 V2 V1	90~264VAC	+3.3 VDC	0A	10A	105W	120W	12A	125W	150W	±5%	50mVp-p
			+5 VDC	0A	10A			12A			±5%	50mVp-p
			+12 VDC	0.15A	6A			7.5A			±5%	120mVp-p
			-12 VDC	0.15A	1.5A			2.5A			±8%	120mVp-p
PSPW150B-4Y03-X	V4 V3 V2 V1	90~264VAC	+3.3 VDC	0A	10A	105W	120W	12A	125W	150W	±5%	50mVp-p
			+5 VDC	0A	10A			12A			±5%	50mVp-p
			+15 VDC	0.15A	2.5A			3.5A			±5%	150mVp-p
			-15 VDC	0.15A	1.25A			1.75A			±8%	150mVp-p
PSPW150B-4Y04-X	V4 V3 V2 V1	90~264VAC	+3.3 VDC	0A	10A	105W	120W	12A	125W	150W	±5%	50mVp-p
			+5 VDC	0A	10A			12A			±5%	50mVp-p
			+12 VDC	0.15A	6A			7.5A			±5%	120mVp-p
			+48 VDC	0.15A	0.5A			1.0A			±8%	480mVp-p
PSPW150B-4Y05-X	V4 V3 V2 V1	90~264VAC	+5 VDC	0A	10A	75W	120W	12A	90W	150W	±5%	50mVp-p
			+12 VDC	0.15A	6A			7.5A			±5%	120mVp-p
			+24 VDC	0.15A	3.5A			4.5A			±5%	240mVp-p
			-12 VDC	0.15A	1.5A			1.5A			±5%	120mVp-p
PSPW150B-4Y06-X	V4 V3 V2 V1	90~264VAC	+5 VDC	0A	10A	75W	120W	12A	90W	150W	±5%	50mVp-p
			+12 VDC	0.15A	6A			7.5A			±5%	120mVp-p
			+24 VDC	0.15A	3.5A			4.5A			±5%	240mVp-p
			-15 VDC	0.15A	1.5A			1.0A			±8%	150mVp-p
PSPW150B-4Y07-X	V4 V3 V2 V1	90~264VAC	+3.3 VDC	0A	10A	75W	120W	12A	90W	150W	±5%	50mVp-p
			+5 VDC	0A	10A			12A			±5%	50mVp-p
			+12 VDC	0.15A	6A			7.5A			±5%	120mVp-p
			+28 VDC	0.15A	3A			4.0A			±5%	280mVp-p

**SPECIFICATIONS: PSPWX150 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
<b>INPUT SPECIFICATIONS</b>					
Input Voltage Range		90	115/230	264	VAC
Input Frequency		47	50/60	63	Hz
Input Current	115VAC, 60Hz			2.5	A
Inrush Current	230VAC, cold start			60	A
Power Factor	110-240VAC and full load	0.90			
<b>OUTPUT SPECIFICATIONS</b>					
Output Voltage		See Table			
Total Regulation		See Table			
Output Power	Convection cooling			120	W
	With 30CFM forced air			150	
Output Current		See Table			
Minimum Load		See Table			
Ripple & Noise <sup>(2)</sup>		See Table			
Hold-up Time	Typical input and full load	16			ms
Overshoot at Turn On/Turn Off	% of Voltage Regulation Tolerance, No voltage of opposite polarity should be present on any output during turn-on or turn-off			±5	%
Temperature Coefficient				±0.05	%/°C
<b>PROTECTION</b>					
Short Circuit Protection	Short circuit that occurs on any DC output should not cause any damage to the power supply, but should shut down the power supply. The power supply will automatically recover once short circuit is removed. The +5V output on PSPW150B-2Y02-X, PSPW150B-2Y03-X, and PSPW150B-3Y01-X should be shut down when short circuit occurs.	Automatic recovery			
Over Load Protection	Auto-recovery, the +5V output on PSPW150B-2Y02-X, PSPW150B-2Y03-X, and PSPW150B-3Y01-X can be shut down or automatically recovered when OLP occurs. See page x for OLP behavior of each model.	110		160	% Max Load
Over Voltage Protection	If any over voltage occurs, the power supply should latch off and shut down when any output exceeds its limit. Power supply will not automatically recover after over voltage situation is removed. A manual AC power recycle is required.	+28VDC Nominal Voltage	30.8	36.4	VDC
		+24VDC Nominal Voltage	26.4	31.2	
		+15VDC Nominal Voltage	16.5	19.5	
		+12VDC Nominal Voltage	13.2	16.2	
		+5VDC Nominal Voltage	5.5	6.5	
+3.3VDC Nominal Voltage	3.63	4.29			
Over Temperature Protection	Automatic Shutdown; the temperature sensing point is located at HS1 & 40°C ambient. Power supply will not automatically recover after over voltage situation is removed. A manual AC power recycle is required.		88±4		°C
<b>GENERAL SPECIFICATIONS</b>					
Efficiency	115VAC and full load		>80		%
Dielectric Withstand	Primary to Secondary	4242VDC for 4sec.			
	Primary to Frame Ground	2121VDC for 4Sec.			
Insulation Resistance	500VDC	Primary to Secondary	20		MΩ
		Primary to Frame Ground	20		
Burn-In Test	100% burn-in tested at max. load under 40°C±5°C				
<b>ENVIRONMENTAL SPECIFICATIONS</b>					
Operating Temperature	Derating linearly 2.5% per °C from +41°C to +60°C	0		+40	°C
Storage Temperature Range		-10		+70	°C
Operating Relative Humidity	Non-Condensing	20		90	%
Storage Relative Humidity	Non-Condensing	20		90	%
Humidity	Non-condensing	5		95	%
MTBF	Max load, 25°C ambient temperature	100,000			hours
<b>PHYSICAL SPECIFICATIONS</b>					
Weight	Open Frame Models (Suffix "O")	0.86 lbs (390g)			
	U-Chassis Models (Suffix "U")	1.11 lbs (500g)			
Dimensions (L x W x H)	Open Frame Models (Suffix "O")	5.00 x 3.00 x 1.36 in (127 x 76.2 x 34.5 mm)			
	U-Chassis Models (Suffix "U")	5.00 x 3.17 x 1.57 in (127 x 80.5 x 40.0 mm)			
<b>SAFETY &amp; EMC</b>					
Safety Approvals	UL60950-1 <sup>(4)</sup> , UL62368-1 <sup>(4)</sup> , CSA 22.2 No.60950-1, CSA 22.2 No3 62368-1, Nemko EN60950-1, TUV EN62368-1, CB IEC60950-1, and CB IEC6236-1				
EMC Standards <sup>(7)</sup>	EN55022 & EN55024 Class B, FCC Class B				

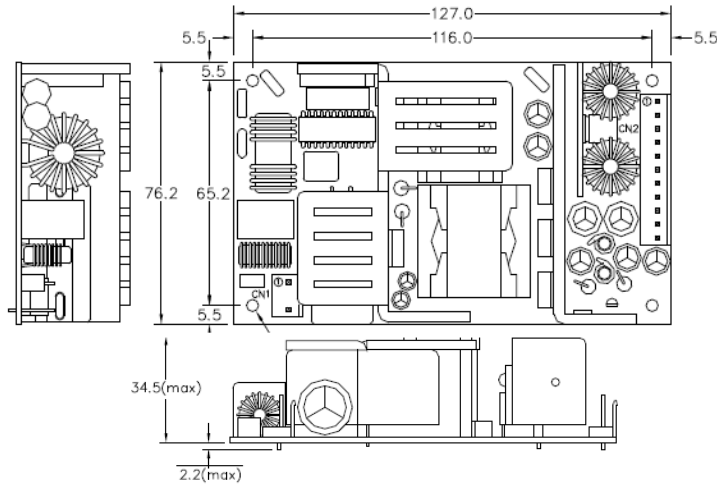
**NOTES**

1. The "X" in the model number can be "O" for open frame type or "U" for U-chassis type.
2. Ripple and Noise measured at oscilloscope 20MHz bandwidth by a 47uF electrolytic capacitor and a 0.1uF ceramic capacitor in parallel at output connector.
3. Regulation shows percentage of absolute value of nominal output voltage.
4. Total output power maximum 120W convection or 150W forced air cooling.
5. Cross regulation measured at 25% to 100% max load.
6. This product is Listed to applicable standards and requirements by UL.
7. Tests for conformance to these requirements will be performed with host system.

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

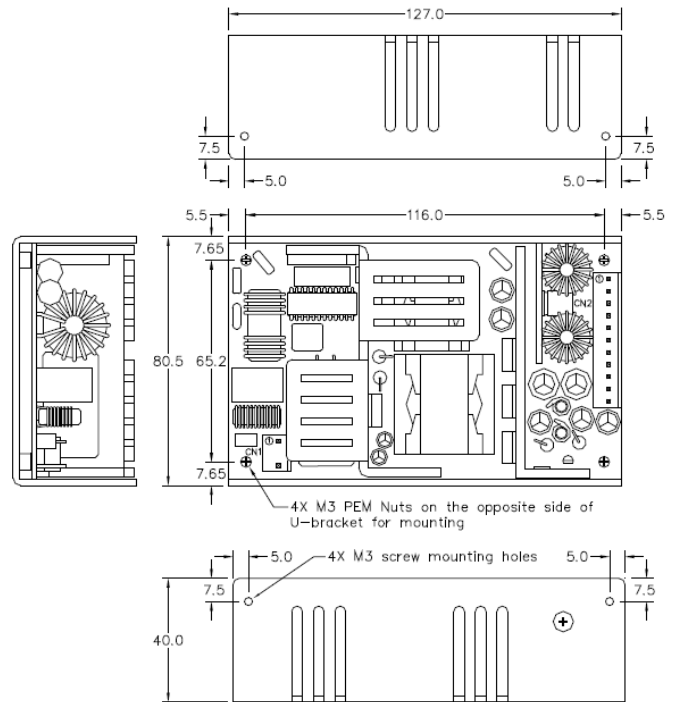
**MECHANICAL DRAWING**

**OPEN FRAME MODELS (SUFFIX "O")**



- The protective bonding conductor (ground) is located at Top left side of the PCB.
- 4 positions of mounting holes must be securely connected to protective earth ground in the final system assembly for optimum SAFETY and EMI performance.

**U-CHASSIS MODELS (SUFFIX "U")**



**OUTPUT CONNECTOR CONFIGURATION (CN2)**

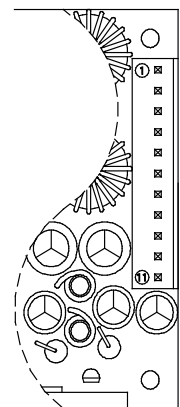
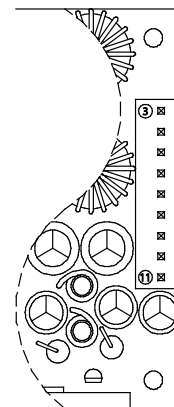
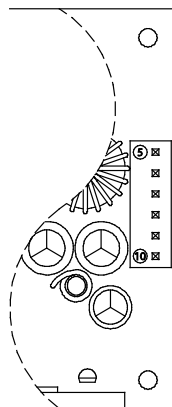
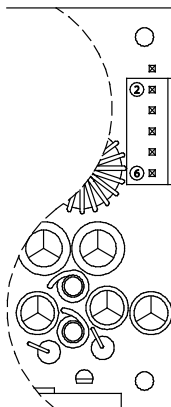
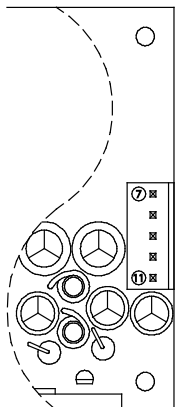
PSPW-150B-2Y01-x

PSPW-150B-2Y02-x

PSPW-150B-2Y03-x

PSPW-150B-3Y01-x

OTHERS



**CN1: INPUT CONNECTOR**

JST B3P-VH-B pitch: 7.92mm or equivalent,  
mates with JST VHR-3N or equivalent

**CN2: OUTPUT CONNECTOR**

JST B11P-VH-B or equivalent: Mates with JST VHR-11N or equivalent

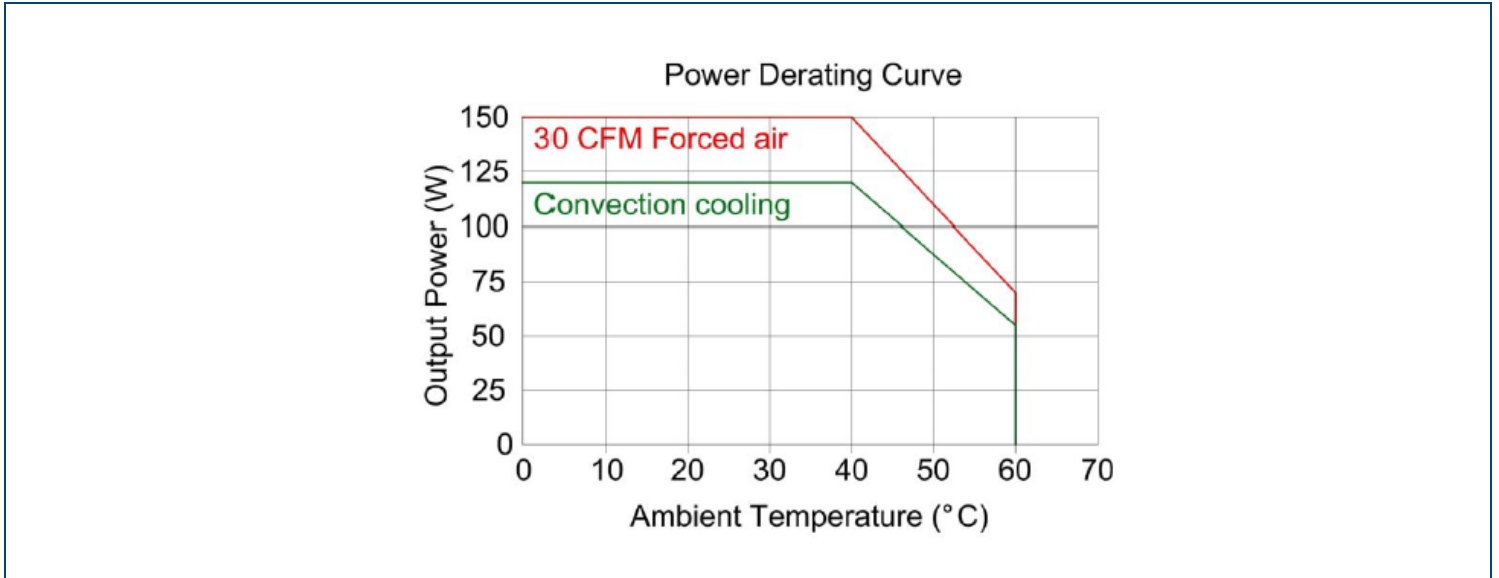
CN1: INPUT CONNECTOR	
PIN	FUNCTION
1	AC (L)
2	AC (N)

MODEL	CN2: OUTPUT CONNECTOR											
	PIN	1	2	3	4	5	6	7	8	9	10	11
PSPW-150B-2Y01-U	-	-	-	-	-	-	-	GND	GND	+12V	+12V	+24V
PSPW-150B-2Y02-U	-	+24V	GND	GND	+5V	+5V	-	-	-	-	-	-
PSPW-150B-2Y03-U	-	-	-	-	+5V	+5V	GND	GND	+12V	+12V	-	-
PSPW-150B-3Y01-U	-	-	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+24V	-
PSPW-150B-3Y02-U	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	-	-
PSPW-150B-3Y03-U	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	-	-	+24V	-
PSPW-150B-4Y01-U	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+24V	-
PSPW-150B-4Y02-U	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	-12V	-
PSPW-150B-4Y03-U	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+15V	+15V	-15V	-
PSPW-150B-4Y04-U	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+48V	-
PSPW-150B-4Y05-U	-12V	-12V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+24V	-
PSPW-150B-4Y06-U	-15V	-15V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+24V	-
PSPW-150B-4Y07-U	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+28V	-

**OLP BEHAVIOR**

Model No.	Output Voltage	OLP
PSPW150B-2Y01- <del>X</del>	V2	+12 VDC
	V1	+24 VDC
PSPW150B-2Y02- <del>X</del>	V2	+5 VDC
	V1	+24 VDC
PSPW150B-2Y03- <del>X</del>	V2	+5 VDC
	V1	+12 VDC
PSPW150B-3Y01- <del>X</del>	V3	+5 VDC
	V2	+12 VDC
	V1	+24 VDC
PSPW150B-3Y02- <del>X</del>	V3	+3.3 VDC
	V2	+5 VDC
	V1	+12 VDC
PSPW150B-3Y03- <del>X</del>	V3	+3.3 VDC
	V2	+5 VDC
	V1	+24 VDC
PSPW150B-4Y01- <del>X</del>	V4	+3.3 VDC
	V3	+5 VDC
	V2	+12 VDC
	V1	+24 VDC
PSPW150B-4Y02- <del>X</del>	V4	+3.3 VDC
	V3	+5 VDC
	V2	+12 VDC
	V1	-12 VDC
PSPW150B-4Y03- <del>X</del>	V4	+3.3 VDC
	V3	+5 VDC
	V2	+15 VDC
	V1	-15 VDC
PSPW150B-4Y04- <del>X</del>	V4	+3.3 VDC
	V3	+5 VDC
	V2	+12 VDC
	V1	+48 VDC
PSPW150B-4Y05- <del>X</del>	V4	+5 VDC
	V3	+12 VDC
	V2	+24 VDC
	V1	-12 VDC
PSPW150B-4Y06- <del>X</del>	V4	+5 VDC
	V3	+12 VDC
	V2	+24 VDC
	V1	-15 VDC
PSPW150B-4Y07- <del>X</del>	V4	+3.3 VDC
	V3	+5 VDC
	V2	+12 VDC
	V1	+28 VDC

DERATING CURVES



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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