



Wall Industries, Inc.

PSRL5017R8-NI Series  
Up to 800 Watts  
Single Output with Active PFC  
Forced Current Sharing Series  
AC/DC Switching Power Supply

FEATURES

- 2 Year Warranty
- N+1 Active Current Sharing
- Optional Top Cover Available
- Universal AC Input / Full Range
- Peak Power 900W within 500uS duty duration
- Power Factor Corrected to EN61000-3-2 Class D
- High Power Density (Max. 9.1 Watts per cubic inch)
- Approved to UL/CUL/TUV/CB/CE & Class B Emissions
- U-Chassis & Enclosed with Built-in Fan Mechanical Options



U Type



E Type



F Type



SPECIFICATIONS: PSRL5017R8-NI 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	90 - 264 VAC Full Range
Input Current	12A at 90VAC and full load.
Input Frequency	47 to 63Hz
Inrush Current	70A max. @ 230VAC with full load cold start.
Leakage Current	3.5mA max. @ 240VAC.
Remote ON/OFF	Designated as <b>RSW</b> on CN3, requires a low signal to inhibit output.

OUTPUT SPECIFICATIONS

Output Voltage	See Table
Output Power Range	800 Watts max with airflow. (See Note 3)
Output Adjustability	Output user adjustable ±5% minimum.
Total Regulation	±1%
Output Current	See Table
Ripple & Noise (peak to peak)	±1%
Transient Response	Returns to within 1% in less than 2.5ms for a 50% load change and the peak transient does not exceed 5%.
Hold-Up Time	20ms min. at 80% of full load.
Overshoot	Turn-On & Off overshoot < 5% over nominal voltage.
Turn On Delay	1.5 seconds maximum at 230VAC.

PROTECTION

Over Voltage Protection	Unit latching down when output voltage exceeds 130% and recycle AC input to reset.
Short Circuit Protection	Trip without damage and auto-recovery.
Over-Temperature Protection	Unit protected of excessive operating ambient 85°C and automatic recovery.
Over-Power Protection	Fold back mode 110-140% and auto-recovery.
Input Voltage Protection	Power shut down under 80 ±5VAC, and recovered over 86VAC
Input Fusing Protection	A T12A/250V fuse is inserted in primary.

GENERAL SPECIFICATIONS

Efficiency	80% for 12V, and 83% minimum for other outputs @ 230VAC and full load.
Withstand Voltage	1500 VAC input line to chassis (10mA DC cut off current); 3000VAC between primary and secondary windings. Primary to core 1500VAC. All for 3 seconds.
Burn In	45 ±5°C for one hour @ 230VAC with full load.
PFC	Active power factor correction meets EN61000-3-2 class D.
Power Good	Designated as <b>PG</b> on the CN3 and TTL high 100-500ms after regulation. It goes low at least 1ms before loss of regulation for Power on Reset signal.
Grounding Test	Apply 25A from ground pin of the three prong plug to the far most earth. Max allowable resistance is 0.1 ohm.



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SPECIFICATIONS (CONTINUED)	
GENERAL SPECIFICATIONS (CONTINUED)	
Current Sharing	Designated as <b>CSH</b> on the CN3, optional single wired for forced current sharing function and parallel up to 4 units within 10% accuracy at full load.
Current Monitor	Designated as <b>CMN</b> on the CN3 is a 0.5V to 3VDC output voltage to represent 0% to 100% output current.
LED Display	Bi-color <b>LED1</b> emit Green for Power On and emit Orange when protection is enabled or RSW is applied a low signal.
ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature	0°C to +70°C ambient, de-rating at 2.5% per degree from 50°C to 70°C.
Storage Temperature	-20°C to +85°C
Operating Humidity	5% to 90% RH, non-condensing
Storage Humidity	5% to 95% RH, non-condensing
Vibration	5 ~ 50Hz, acceleration 7.35 m/(s x s) on X, Y, and Z axis.
Cooling	<b>U Type</b> (U-Chassis): 25CFM to achieve maximum power <b>E &amp; F Type</b> (Enclosed with built-in fan): Self cooled by built-in fan.
MTBF	150,000 hours (according to MIL-HBK-217F) at 30°C.
PHYSICAL SPECIFICATIONS	
Weight	<b>U Type</b> (U-Chassis): 1350 grams <b>E &amp; F Type</b> (Enclosed with built-in fan): 1450 grams
Dimensions	<b>U Type</b> (U-Chassis): 8(L) x 4.33(W) x 2.5(H) inches. <b>E Type</b> (Enclosed with built-in fan): 9.17(L) x 4.25(W) x 2.5(H) inches. <b>F Type</b> (Enclosed with top built-in fan): 8(L) x 4.33(W) X 3.4(H) inches.
Warranty	2 years
SAFETY	
Emissions	FCC part15, CISPR 22 Class B, Conducted.
Safety Regulations	Approved to UL60950-1, CSA C22.2 No. 60950-1-03, TUV EN60950-1, CE Mark (LVD) EN61000-3-2,3, and IEC61000-4 Series Regulations and CB.

## OUTPUT VOLTAGE / CURRENT RATING CHART

Model	Output Voltage Range	Preset Voltage	Output Current	Regulation	Ripple & Noise	Output Power
PSRL5017Rx8-12NI	12 – 14 VDC	12 VDC	62.5A	±1%	±1%	750W
PSRL5017Rx8-15NI	15 – 19 VDC	15 VDC	50A	±1%	±1%	750W
PSRL5017Rx8-24NI	20 – 26 VDC	24 VDC	40A	±1%	±1%	800W
PSRL5017Rx8-36NI	27 – 36 VDC	36 VDC	29.63A	±1%	±1%	800W
PSRL5017Rx8-40NI	37 – 47 VDC	40 VDC	21.62A	±1%	±1%	800W
PSRL5017Rx8-48NI	48 – 60 VDC	48 VDC	16.67A	±1%	±1%	800W

## NOTES

- PSRL5017R8-NI Series is designated as PSRL5017Rxy-z where **x** can be **E** (enclosed with end side built-in fan), **U** (U-Chassis with optional cover), or **F** (enclosed with top built-in fan), **y = 8** for output power from 750W to 800W, and **z** can be **12NI, 15NI, 24NI, 36NI, 40NI, or 48NI** for output voltage (**I** denote forced current sharing option (output with internal OR-ring diode)).
- All output ranges are covered in agency certifications and preset voltage will be set as standard models. If any request is not preset output, then please contact us in advance.
- U-Chassis type needs external forced airflow min. 25CFM to achieve maximum power.
- Ripple & noise are measured from 10KHZ to 20MHz bandwidth at output with parallel 0.1uF ceramic and 22uF electrolytic capacitors.
- Providing peak power to 900W within 500uS for all models, longer duty duration need contact manufacturer.
- 1% minimum load is required to maintain the ripple and regulation.
- Cover is optional for U-Chassis Type. Please call factory for ordering details.
- Output is fully isolated.

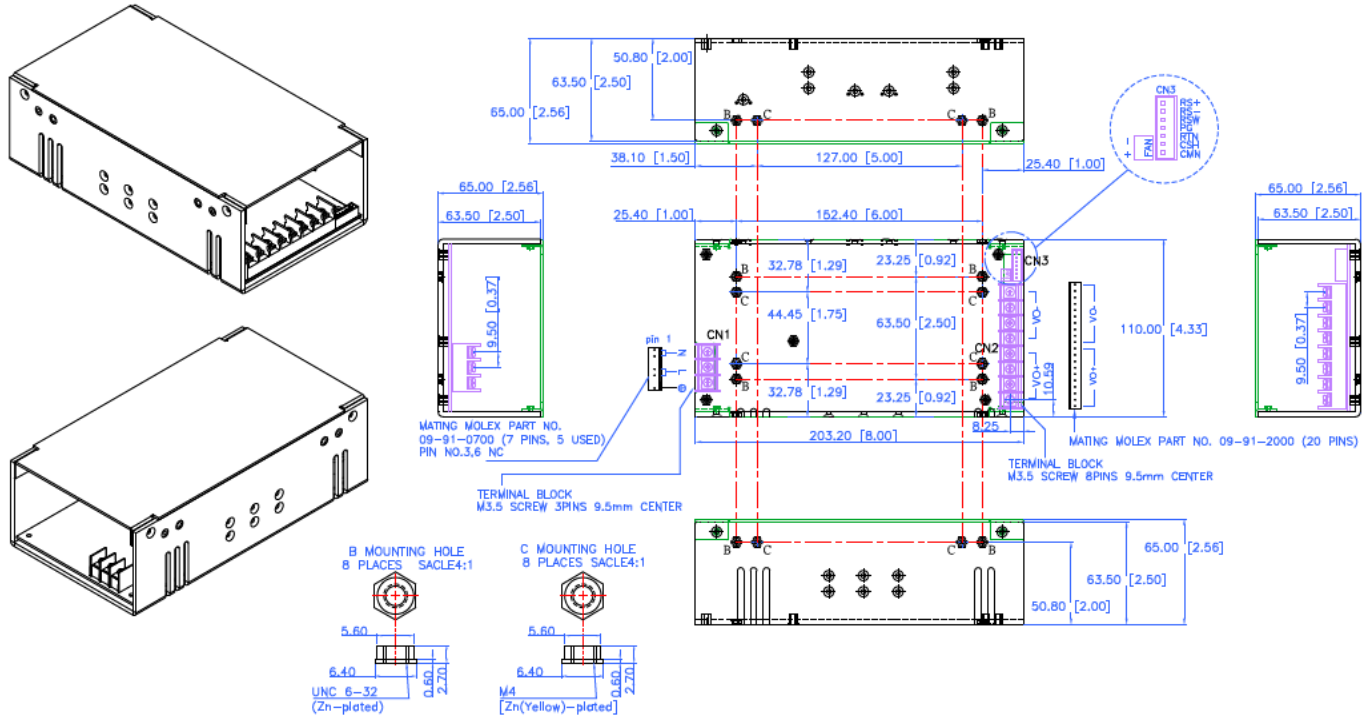


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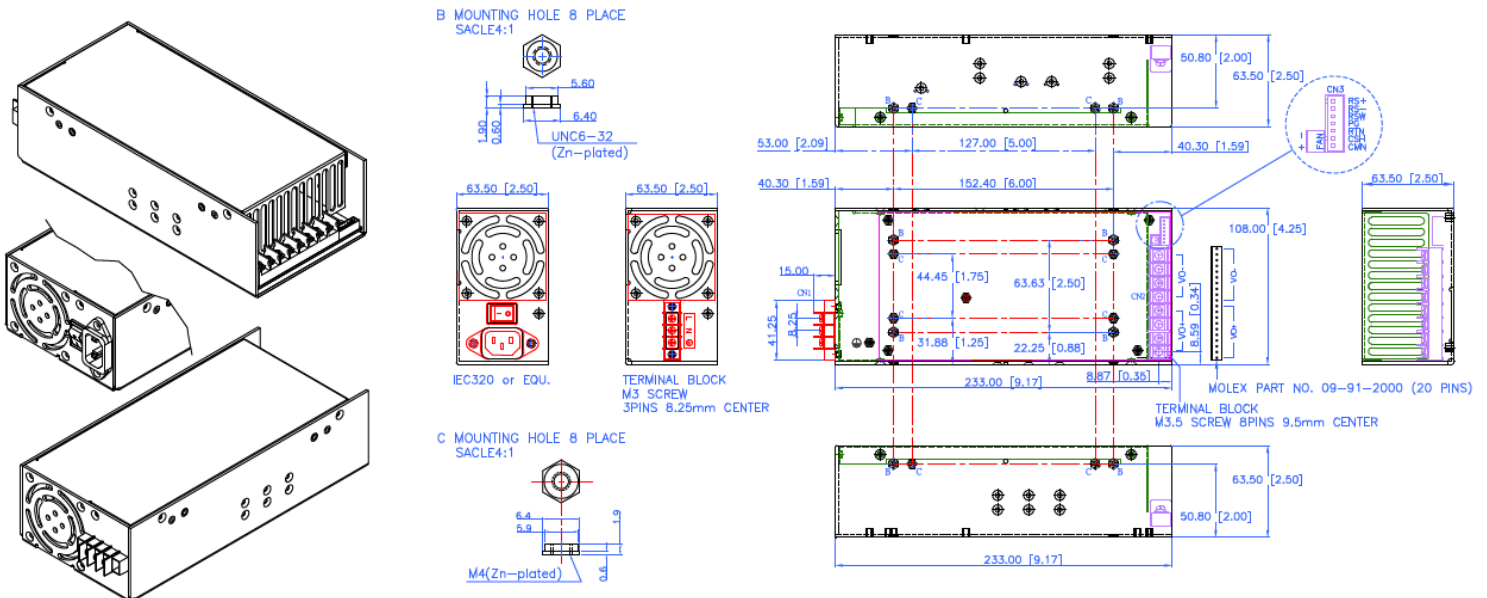
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MECHANICAL DRAWINGS

PSRL5017RU8-NI Series (U-Chassis Type): 8(L) x 4.33(W) x 2.5(H) inches; Weight: 1350g; Option: Top Cover.



PSRL5017RE8-NI Series (Enclosed with Built-in Fan Type): 9.17(L) x 4.25(W) x 2.5(H) inches; Weight: 1450g.

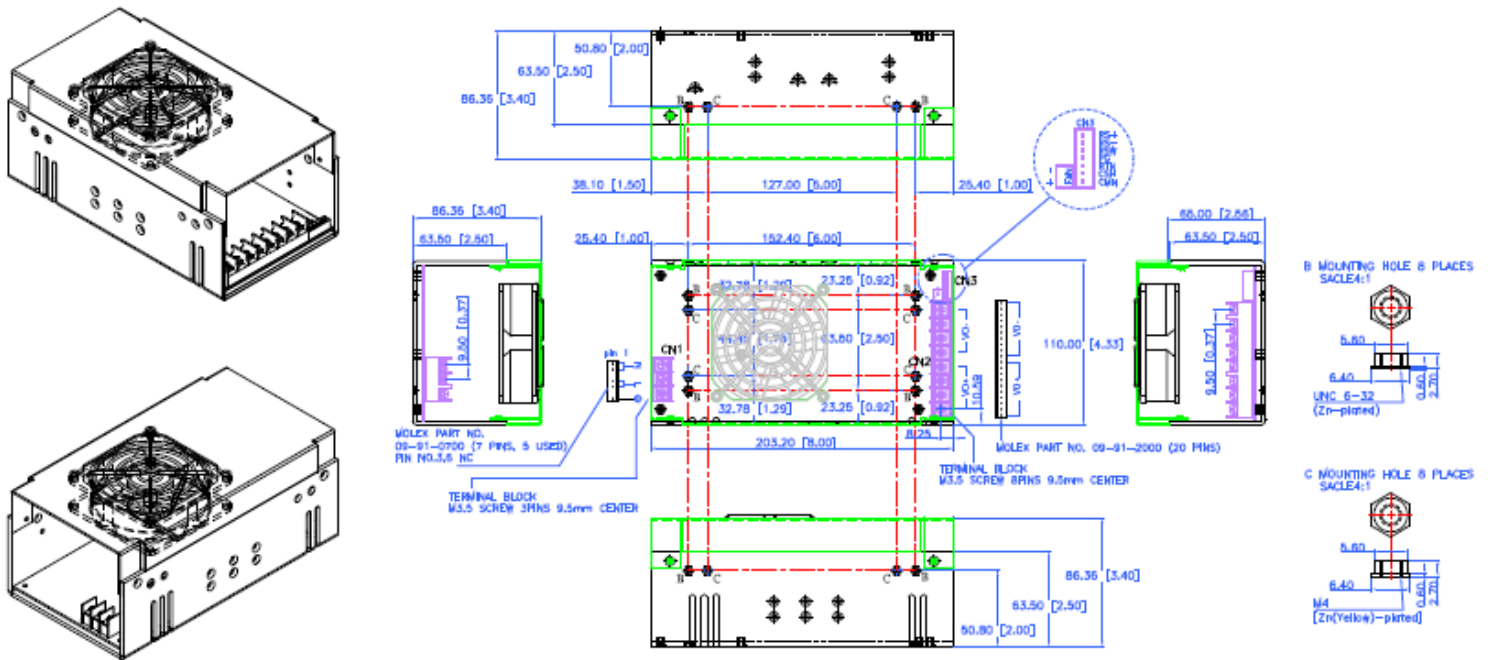




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PSRL5017RF8-NI Series (Enclosed with Top Built-in Fan Type): 8(L) x 4.33(W) x 3.4(H) inches; Weight: 1450g.



OUTPUT PIN CONNECTION		
	Howder	Molex
<b>Vo+</b>	Pins 1 – 4	Pins 1 – 10
<b>Vo-</b>	Pins 5 – 8	Pins 11 – 20

### I/O CONNECTOR PIN ASSIGNMENT

#### **AC Input Connector (CN1):**

E Type: IEC320 or equivalent Snap-in mounting type or DINKLE Terminal block Part No. DT-35-A02W-03 (3 pin).

U & F Type: Mating Molex Part No. 09-91-0700 or equivalent (7 pin. 5 used) or Howder Terminal block Part No. HD-121-3P.

#### **Output Connector (CN2):**

Mating Molex Part No. 09-91-2000 (20 pin) or Howder Terminal block Part No. HD-121-8P (8 pin).

#### **Output Pin Assignment:**

Optional two type - **Molex:** VO+ (Pins 1-10 ), VO- (Pins 11-20) ; **Howder:** VO+ (Pins 1-4 ), VO- (Pins 5-8).

#### **Logic signal connectors (CN3):**

Mating JST XHP-7 or equivalent (CHYAO SHIUNN JS-2001-07).

#### **Fan Drive:**

12VDC/400mA Mating JST XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).

#### **Mounting Inserts:**

6-32, M4 4 Places individually with maximum penetration 0.2 inch on bottom side and 0.25 inch on both sides.