Wall Industries, Inc.

PSRL5017R5-I Series
Up to 500 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: (U-Chassis): 8(L) x 4.33(W) x 2.5(H) inches
E Type: (Enclosed with built-in Fan): 9.17(L) x 4.25(W) x 2.5(H) inches

CE CB RoHS

SPECIFICATIONS: *PSRL5017R5-I 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 (PSRL5017Rx8-I 800W Series: 180 - 264 VAC only).
Input Current	8A 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 **RSW** on CN3, requires a low signal to inhibit output.
OUTPUT SPECIFICATIONS	
Output Voltage	See Table
Output Power Range	500 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)	See Table
Transient Response	Returns to within 1% in less than 2.5ms for a 50% load change and the peak transient does not excess 5%.
Hold-Up Time	20ms min. at 80% of full load.
Overshoot	Turn-On & Off overshoot < 5% over nominal voltage.
Turn On Delay	1 second maximum at 120VAC.
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 T10A/250V fuse inserted in primary.
GENERAL SPECIFICATIONS	
Efficiency	70% for 3.3V, 75% for 5V, 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 **PG** 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.

SPECIFICATIONS (CONTINUED)	
GENERAL SPECIFICATIONS (CONTINUED)	
Current Sharing	Designated as **CSH** 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 **CMN** on the CN3 is a 0.5V to 3VDC output voltage to represent 0% to 100% output current.
LED Display	Bi-color **LED1** 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	**U Type** (U-Chassis): 30CFM to achieve maximum power for all models except PSRL5017R3-I Series which is convection cooled. **E Type** (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	**U Type** (U-Chassis): 1350 grams **E Type** (Enclosed with built-in fan): 1450 grams
Dimensions	**U Type** (U-Chassis): 8(L) x 4.33(W) x 2.5(H) inches. **E Type** (Enclosed with built-in fan): 9.17(L) x 4.25(W) x 2.5(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

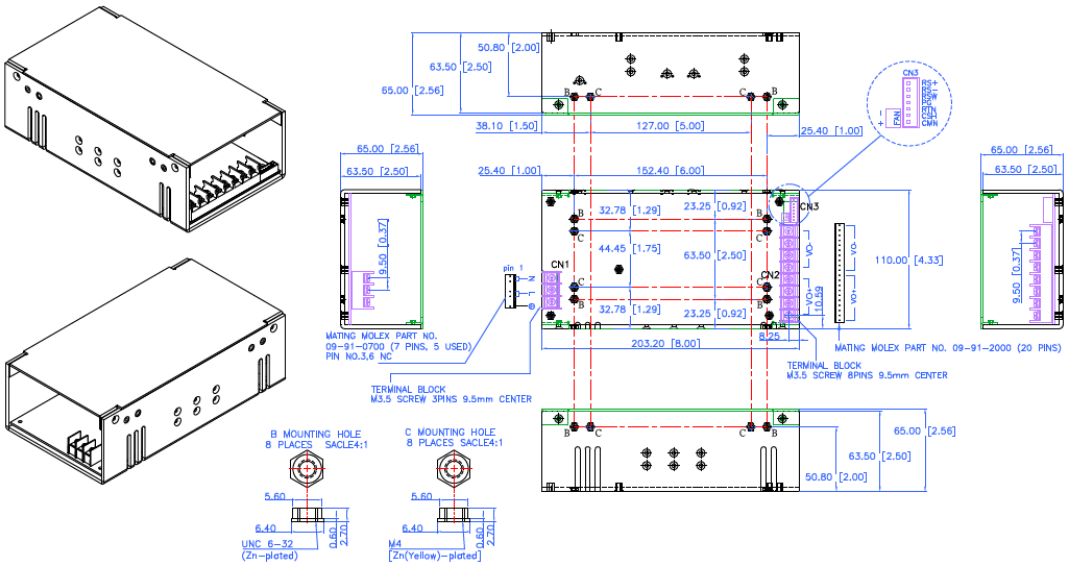
Model	Output Voltage Range	Preset Voltage	Output Current	Regulation	Ripple & Noise	Output Power
PSRL5017Rx5-03I	2 – 3.3 VDC	3.3 VDC	80A	±1%	75mV	264W
PSRL5017Rx5-05I	5 – 6 VDC	5 VDC	80A	±1%	75mV	400W
PSRL5017Rx5-12I	12 – 15 VDC	12 VDC	41.67A	±1%	±1%	500W
PSRL5017Rx5-16I	16 – 21 VDC	18 VDC	31.25A	±1%	±1%	500W
PSRL5017Rx5-24I	22 – 30 VDC	24 VDC	22.73A	±1%	±1%	500W
PSRL5017Rx5-36I	31 – 47 VDC	36 VDC	16.13A	±1%	±1%	500W
PSRL5017Rx5-48I	48 – 56 VDC	48 VDC	10.42A	±1%	±1%	500W

NOTES

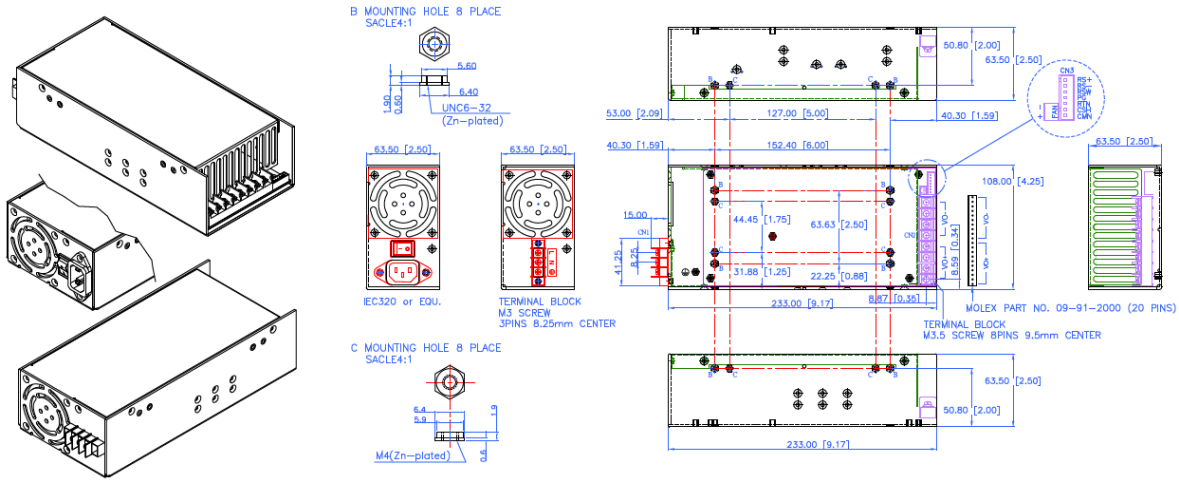
1. The PSRL5017R5-I Series is designated as PSRL5017Rxy-z where x = **U** (U-chassis type) or **E** (Enclosed with built-in fan type), y = **5** for output power from 264W - 500W, and z = **03I, 05I, 12I, 16I, 24I, 36I**, or **48I** for output voltage (**I** denotes forced current sharing option (output with internal OR-ring diode)).
2. 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.
3. U-Chassis type needs external forced airflow min. 30CFM to achieve maximum power, except PSRL5017RU3-z which is convection cooled.
4. Ripple & noise are measured from 10KHZ to 20MHz bandwidth at output with parallel 0.1uF ceramic and 22uF electrolytic capacitors.
5. Providing peak power to 900W within 500uS for all models, longer duty duration need contact manufacturer.
6. 1% minimum load is required to maintain the ripple and regulation.
7. Cover is optional for U-Chassis Type. Please call factory for ordering details.
8. Output is fully isolated.

MECHANICAL DRAWINGS

PSRL5017RU5-I Series (U-Chassis Type): 8(L) x 4.33(W) x 2.5(H) inches; Weight: 1350g; Option: Top Cover.



PSRL5017RE5-I Series (Enclosed with built-in Fan Type): 9.17(L) x 4.25(W) x 2.5(H) inches; Weight: 1450g.



I/O CONNECTOR PIN ASSIGNMENT

AC Input Connector (CN1):
Enclosed Type: IEC320 or equivalent Snap-in mounting type or DINKLE Terminal block Part No. DT-35-A02W-03 (3 pin).
U-Chassis 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: (See table at right)

Output Pin Connection		
	Howder	**Molex**
Vo+	Pins 1 – 4	Pins 1 – 10
Vo-	Pins 5 – 8	Pins 11 – 2(

Logic signal connectors (CN3):
Mating JST XHP-7 or equivalent (CHYAO SHIUNN JS-2001-07).

Fan Drive: 12VDC/500mA 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.