

## FEATURES

- 2 Year Warranty
- Universal AC Input
- Approved to UL CUL TUV CE and CB
- Power Factor Corrected to EN61000-3-2 Class D
- Compact Size & Power Density: 5.15 Watts/cu in.
- Providing Peak Power 600W within 500uS Duty Duration
- Low Leakage Current 500uA @ 240VAC / 200uA @ 120VAC
- U-Chassis & Enclosed with Built-in Fan Mechanical Options



U Type: (U-Chassis): 8(L) x 4.25(W) x 2(H) inches.

F Type: (Enclosed with top built-in fan): 8(L) x 4.25(W) x 2.5(H) inches.



### SPECIFICATIONS: PSRL0501 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 – 264VAC Full Range                                                                        |
| Input Frequency | 47 to 63Hz                                                                                    |
| Input Current   | 5.5A at 90VAC full load                                                                       |
| Inrush Current  | 70A max @ 230VAC with full load and cold start.                                               |
| Leakage Current | Regular type 1.5mA @240VAC. (Optional for 500µA max. at 240VAC / 200µA max. at 120VAC input). |

#### OUTPUT SPECIFICATIONS

|                               |                                                                                                        |
|-------------------------------|--------------------------------------------------------------------------------------------------------|
| Output Voltage                | See Table                                                                                              |
| Output Power Range            | 350 Watts max with airflow.                                                                            |
| Output Adjustability          | Output user adjustable ±5% minimum.                                                                    |
| Total Regulation              | ±1%                                                                                                    |
| Output Current                | See Table                                                                                              |
| Ripple & Noise (peak to peak) | ±1%                                                                                                    |
| Transient Response            | Output voltage returns to within 1% in less than 2.5ms for a 50% dynamic load peak does not exceed 5%. |
| Hold-Up Time                  | 20ms min. at 80% of full load.                                                                         |
| Overshoot                     | Turn on-off overshoot not exceed 5% nominal voltage.                                                   |
| Turn On Delay                 | 1 second maximum at 120VAC.                                                                            |

#### PROTECTION

|                             |                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------|
| Over Voltage Protection     | Unit latching down when output exceeds 130% and recycle AC input to reset.                      |
| Short Circuit Protection    | Trip without damage and auto-recovery.                                                          |
| Over-Temperature Protection | Output voltage dropped in the event of excessive operating ambient 85°C and automatic recovery. |
| Over Load Protection        | 110-135% hiccup mode, auto-recovery.                                                            |
| AC Under Voltage Protection | Power shut down when V <sub>in</sub> under 79 ±2V and automatic recovery once back over 86 ±3V. |
| Input Circuit Protection    | One 250V/6.3A fuse inserted.                                                                    |

#### GENERAL SPECIFICATIONS

|                   |                                                                                                                        |
|-------------------|------------------------------------------------------------------------------------------------------------------------|
| Efficiency        | 70% for 3.3V, 75% for 5V, 80% for 12V, and 82% min. for other outputs (Measuring at 230VAC and full load).             |
| Withstand Voltage | 1500 VAC input line to chassis, 3000VAC primary to secondary, and 1500VAC primary to core. All for 3 sec.              |
| Burn In           | 45 ±5°C for one hour @ 230VAC with full load.                                                                          |
| PFC               | Power factor correction meets EN61000-3-2 Class D.                                                                     |
| Power Good        | Designated as <b>PG</b> on the PCB will go high 100-500ms after regulation and goes low 1ms before loss of regulation. |
| Power Supply On   | Green LED designated as <b>LED1</b> on the PCB.                                                                        |
| Grounding Test    | Apply 25A from the ground pin to the far most earthed connection point. Max. resistance is 0.1 ohm.                    |

#### 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                                          |



Wall Industries, Inc.

**PSRL0501 Series**  
**Up to 350 Watts**  
**Single Output with Active PFC**  
**AC/DC Switching Power Supply**

| SPECIFICATIONS (CONTINUED)               |                                                                                                                                             |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| ENVIRONMENTAL SPECIFICATIONS (CONTINUED) |                                                                                                                                             |
| 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): 350W with forced airflow or 230W under convection.<br><b>F Type</b> (Enclosed with top built-in fan): 350W       |
| Fan Drive                                | 12VDC/400mA is available to drive an external fan.                                                                                          |
| MTBF                                     | 100,000 hours (according to MIL-HBK-217F) at 30°C.                                                                                          |
| PHYSICAL SPECIFICATIONS                  |                                                                                                                                             |
| Weight                                   | <b>U Type</b> (U-Chassis): 950g<br><b>F Type</b> (Enclosed with top built-in fan): 1050g                                                    |
| Dimensions                               | <b>U Type</b> (U-Chassis): 8(L) x 4.25(W) x 2(H) inches.<br><b>F Type</b> (Enclosed with top built-in fan): 8(L) x 4.25(W) x 2.5(H) inches. |
| Warranty                                 | 2 years                                                                                                                                     |
| SAFETY                                   |                                                                                                                                             |
| EMC Standards                            | CISPR 22 / EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN55024 CE Marked (LVD).                                               |
| Safety Regulations                       | Approved to UL60950-1, CSA C22.2 No. 60950-1, TUV EN60950-1, and CB certificate available.                                                  |

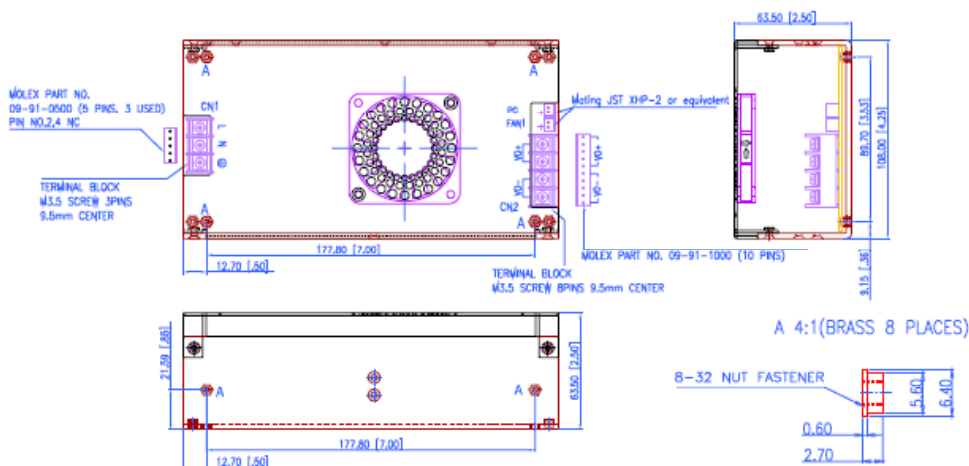
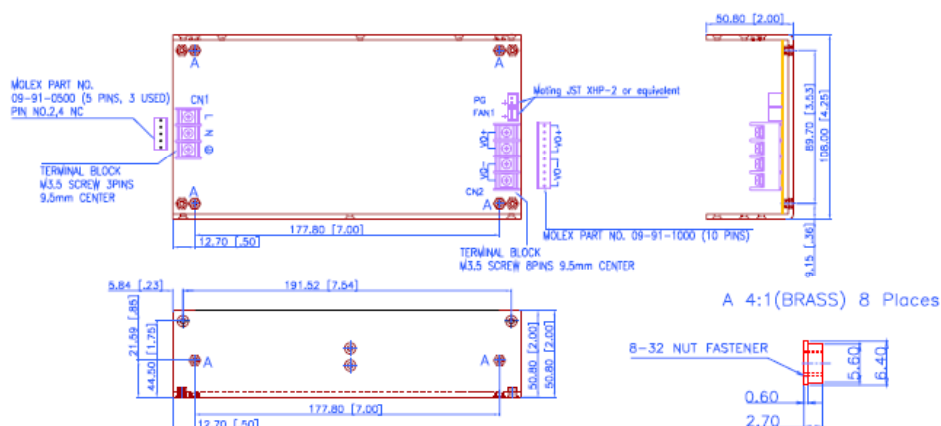
## OUTPUT VOLTAGE / CURRENT RATING CHART

| Model        | Output Voltage Range | Preset Voltage | Output Current          |                                   | Regulation | Ripple & Noise |
|--------------|----------------------|----------------|-------------------------|-----------------------------------|------------|----------------|
|              |                      |                | Type U & C (Convection) | Type U (with forced air) & Type F |            |                |
| PSRL0501x-03 | 3 – 4 VDC            | 3.3 VDC        | 36.36A                  | 72.73A                            | ±1%        | ±1%            |
| PSRL0501x-05 | 5 – 6 VDC            | 5 VDC          | 35A                     | 70A                               | ±1%        | ±1%            |
| PSRL0501x-12 | 12 – 15 VDC          | 12 VDC         | 19.17A                  | 29.17A                            | ±1%        | ±1%            |
| PSRL0501x-15 | 12 – 15 VDC          | 15 VDC         | 15.33A                  | 23.33A                            | ±1%        | ±1%            |
| PSRL0501x-18 | 16 – 21 VDC          | 18 VDC         | 12.77A                  | 19.44A                            | ±1%        | ±1%            |
| PSRL0501x-24 | 22 – 30 VDC          | 24 VDC         | 9.58A                   | 14.58A                            | ±1%        | ±1%            |
| PSRL0501x-36 | 31 – 41 VDC          | 36 VDC         | 6.39A                   | 9.72A                             | ±1%        | ±1%            |
| PSRL0501x-48 | 42 – 53 VDC          | 48 VDC         | 4.79A                   | 7.29A                             | ±1%        | ±1%            |
| PSRL0501x-54 | 54 – 60 VDC          | 54 VDC         | 4.26A                   | 6.48A                             | ±1%        | ±1%            |

## NOTES

1. PSRL0501 Series is designated as PSRL0501x-y where x can be **U** (U-Chassis), **C** (U-Chassis with top cover), or **F** (Enclosed with top built-in fan), y can be 03, 05, 12, 15, 18, 24, 36, 48, or 54 for output voltage.
2. All output ranges are covered in agency certification and the preset voltage will be set as standard models. If any request is not standard output, please contact us prior to ordering.
3. Ripple & noise is measured from 10Khz to 20Mhz at output terminals with parallel 0.1µF ceramic and 22µF electrolytic capacitors.
4. PSRL0501C Series only operates under 30CFM forced airflow to achieve max rating.
5. Providing peak power to 600W within 500uS for all models, longer duty duration need contact manufacture in advance.
6. 1% minimum load is required to maintain the ripple and regulation.
7. Output is fully isolated.

**PSRL0501U Series (U-Chassis Type): 8(L) x 4.25(W) x 2(H) inches; Weight: 950g; Option: Top Cover.**



| Output Pin Connection   |                          |
|-------------------------|--------------------------|
| Howder                  | Molex                    |
| <b>Vo+</b> : Pins 3 – 4 | <b>Vo +:</b> Pins 6 – 10 |
| <b>Vo-</b> : Pins 1 – 2 | <b>Vo- :</b> Pins 1 – 5  |



**Wall Industries, Inc.**

**PSRL0501 Series**  
**Up to 350 Watts**  
**Single Output with Active PFC**  
**AC/DC Switching Power Supply**

---

## **I/O CONNECTOR PIN ASSIGNMENT**

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

Howder 6-32. 3 pin Terminal block 9.5MM Center (HI-201-3P) or Molex Part No. 09-91-0500 or equivalent (5 pin,3 used).  
Pin1: FG; Pin2: Neutral; Pin3: Line.

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

Howder 6-32. 4 pin Terminal block 9.5MM Center (HI-201-4P) or Molex Part No. 09-91-1000 or equivalent (10 pins).

### **Output Pin Assignment:**

(See Output Pin Connection table)

### **FAN and PG Connector:**

Mating JST XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02)

**Mounting Inserts:** 8 Places 8-32 flush nut, screws must not protrude into unit by more than 4mm sees outline drawing for location.