

U Type- U-Chassis Case



Size: 5in x 3.2in x 1.5in

F Type- Enclosed Case



Size: 5in x 3.2in x 2in

**OPTIONS**

- Output Voltage
- Input Voltage
- Case Type
  - U Chassis
  - Top Cover With Fan

**FEATURES**

- Single Output
- Remote On/Off
- 2 Mechanical Options Available
- Approved to UL/cUL, TUV, CE, and CB
- Output Voltages available from 2~60V
- Power factor corrected to EN61000-3-2 Class A
- Providing Peak Power to 600W within 500uS for all models
- Low leakage current 500uA @240VAC/300uA @120VAC
- Auto-Selectable AC input range (90~132VAC/ 180~264VAC)
- High Quality & Reliable Component Usage
- Compact 250W with 1U height Power Density: 10.4W/cu in.
- Over Voltage, Short Circuit, Over Temperature, and Over Power Protection

**DESCRIPTION**

The PSRL0603 series of AC/DC switching power supplies offers up to 250 Watts of output power. This series has single output models with a 90~132/180~264VAC auto-selectable input voltage range. These supplies also have over voltage, short circuit, over temperature, and over power protection. Models are available in U-Chassis (U Type), and U-Chassis with top fan (F-Type) designs. Output connectors are Howder terminal block design; optional Mating Molex outputs are also available. These supplies meet UL60950-1, EN60950-1, and IEC60950-1 safety regulations. For dual output models see the PSRL063D series.

**MODEL SELECTION TABLE**

Model Number <sup>(1)</sup>	Input Voltage Range	Output Voltage <sup>(2)</sup>	Preset Voltage <sup>(2)</sup>	Output Current		Ripple & Noise <sup>(3)</sup>	Output Power <sup>(4)</sup>		Regulation
				Type U & Type F	Type U (Convention)		Type U & Type F	Type U (Convention)	
PSRL0603x-05	90~132VAC/ 180~264VAC Auto-Selectable	2~5V	5V	40A	20A	1%	200W	100W	±1%
PSRL0603x-09		6~10V	9V	25A	13.5A	1%	225W	121.5W	±1%
PSRL0603x-12		11~13.8V	12V	20.83A	11.25A	1%	250W	135W	±1%
PSRL0603x-15		14~15.5V	15V	16.67A	9A	1%	250W	135W	±1%
PSRL0603x-18		16~20V	18V	13.89A	7.5A	1%	250W	135W	±1%
PSRL0603x-24		21~26V	24V	10.42A	5.63A	1%	250W	135W	±1%
PSRL0603x-28		27~34V	28V	8.93A	4.82A	1%	250W	135W	±1%
PSRL0603x-36		35~42V	36V	6.94A	3.75A	1%	250W	135W	±1%
PSRL0603x-48		43~50V	48V	5.21A	2.81A	1%	250W	135W	±1%
PSRL0603x-54		51~60V	54V	4.63A	2.5A	1%	250W	135W	±1%

SPECIFICATIONS						
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	Auto-Selectable		90 180		132 264	VAC
Input Current			47		63	Hz
Inrush Current	@230VAC, Cold Start				70	A
	@115VAC, Cold Start				35	
Power Factor Correction	Power Factor Corrected to EN61000-3-2 Class A					
<b>OUTPUT SPECIFICATIONS</b>						
Output Voltage			See Table			
Regulation				±1		%
Voltage Adjustability	Output User Adjustable		±5			%
Remote On/Off	Designated as <b>RMSW</b> on the CN1, requires a low signal to inhibit output. Hiccup mode.					
Output Power			See Table			
Output Current			See Table			
Ripple & Noise <sup>(3)</sup>				±1		%
Transient Response	Output voltage returns to within 1% in less than 2.5mS for a 50% load change, peak does not exceed 5%.					
Turn On Delay	@230VAC				1	Sec.
Hold Up Time	@80% of Full Load		20			mS
Overshoot	Turn-on & off overshoot <5% over nominal voltage					
<b>PROTECTION</b>						
Short Circuit Protection	Trip Without Damage and Auto-Recovery					
Over Power Protection	Auto-Recovery		110		140	% of I-Max
Over Voltage Protection	Unit latching down when output exceeds 130% and recycle AC Input to reset					
Over Temperature Protection	Unit protected of excessive operating ambient 110°C, and Automatic Recovery					
Input Fusing Protection	One T8A/250V fuse inserted in primary.					
<b>ENVIRONMENTAL SPECIFICATIONS</b>						
Operating Temperature	Ambient, De-rating at 2.5% per degree from 50°C to 70°C		0		70	°C
Storage Temperature			-20		85	°C
Operating Humidity	Non-Condensing		5		90	% RH
Storage Humidity	Non-Condensing		5		95	% RH
Cooling	PSRL0603U Series	135W Max. 250W Max.	Under Air Convection Min. 16CFM Forced Air Flow			
	PSRL0603F Series	250W Max.	Top Built-In Fan			
Vibration	Acceleration 7.35 m/s <sup>2</sup> on X, Y, and Z axis		5		50	Hz
MTBF	@ 30°C according to MIL-HBK-217F		100000			Hrs
<b>GENERAL SPECIFICATIONS</b>						
Efficiency	Depends on Model		70		85	%
Switching Frequency	Fixed Frequency			25		K
Power Supply On	Green LED designated as <b>LED1</b> on the PCB.					
Power Good	Designated as <b>PG</b> on CN1 will go high 100~500ms after regulation and goes low 1ms before loss of regulation (Open Collector)					
Fan Drive	12VDC/300mA is available to drive an external fan.					
Leakage Current	@264VAC (optional for 500uA max. at 240VAC/300uA max. at 120VAC input)				1	mA
Grounding Test	Apply 25A from ground pin of the three prong plug to the far most earth. Max. allowable resistance is 0.1Ω					
Burn-In	For 1 hour @230VAC with Full Load		40	45	50	°C
HI-POT Withstand Voltage	All for 3 seconds	Input line to chassis (10mA DC cut off current) Isolating, Primary to Secondary Primary to Core		1500 3000 1500		VAC
<b>PHYSICAL SPECIFICATIONS</b>						
Weight	PSRL0603U Series		14.11oz (400g)			
	PSRL0603F Series		17.64oz (500g)			
Dimensions (L x W x H)	PSRL0603U Series		5in x 3.2in x 1.5in (127mm x 81.28mm x 38.1mm)			
	PSRL0603F Series		5in x 3.2in x 2in (127mm x 81.28mm x 50.8mm)			
<b>SAFETY &amp; EMC CHARACTERISTICS</b>						
Safety Regulations	UL60950-1, EN60950-1, IEC60950-1					
EMC	EN55022 Class B Conducted/ Radiated EN61000-3-2, EN61000-3-3 EN55024 (IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-11)					

**NOTES**

- (1) The PSRL0603 series is designated as PSRL0603x-y where x can be **U** for U-chassis type, or **F** for U-Chassis type with top cover and built-in fan installed. Y can be 05, 09, 12, 15, 18, 24, 28, 36, 48, or 54 for output voltage.
- (2) All output ranges are covered in agency certifications and the preset voltage will be set as standard models if nothing different is requested. If desired preset output does not appear, please contact us.
- (3) Ripple and Noise is measured from 10KHz to 20MHz bandwidth at output with parallel 0.1uF ceramic and 22uF electrolytic capacitors. 1% minimum load is required to maintain the ripple and regulation.
- (4) PSRL0603U Models (U-Chassis): 250W max. with 16CFM max. forced air flow or 135W max. under air convection.  
PSRL0603F Models (Enclosed with Top Built-In Fan): 250W Max.
- (5) Providing peak power to 600W within 500uS for all models, if longer duty duration is needed, please contact the manufacturer.
- (6) Output is fully isolated.
- (7) For dual output models see the PSRL0603D series.

**I/O CONNECTOR PIN ASSIGNMENT**

**Input Connector (CN3):**

Mating Molex Part No. 09-93-0500 or equivalent (5 pin, 3 used) PCB Labeling: L=Line; N=Neutral; G= Chassis Ground; Molex Engineering Series 2478, 2578, 8818 or Howder M3. 3 pin Terminal black 6.35MM Center (HD-601-3P).

**Output Connector (CN2):**

Mating Molex Part No. 09-93-0600. Mating Pins: Molex Engineering Series 2478, 2578, 8818 or Howder M3. 3 pin Terminal block 6.35MM Center (HD-601-4P) Mating JST Part No. XHP-2 or equivalent (CHYAO SHIUNN JS-4001-06)

**Power Good, Remote On/Off mating connectors (CN1):**

Mating JST Part No. XHP-3 or equivalent (CHAYAO SHIUNN JS-2001-03)  
Mating Pins: JST SXH-002T-P0.6 FOR AWG 30 to 26.

**Signal Pin Assignment:**

Pins 1: Power good  
Pins 2: Remote Switch  
Pins 3: RTN

**Fan Drive:**

Mating JST Part No. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02)

**Mounting Inserts:**

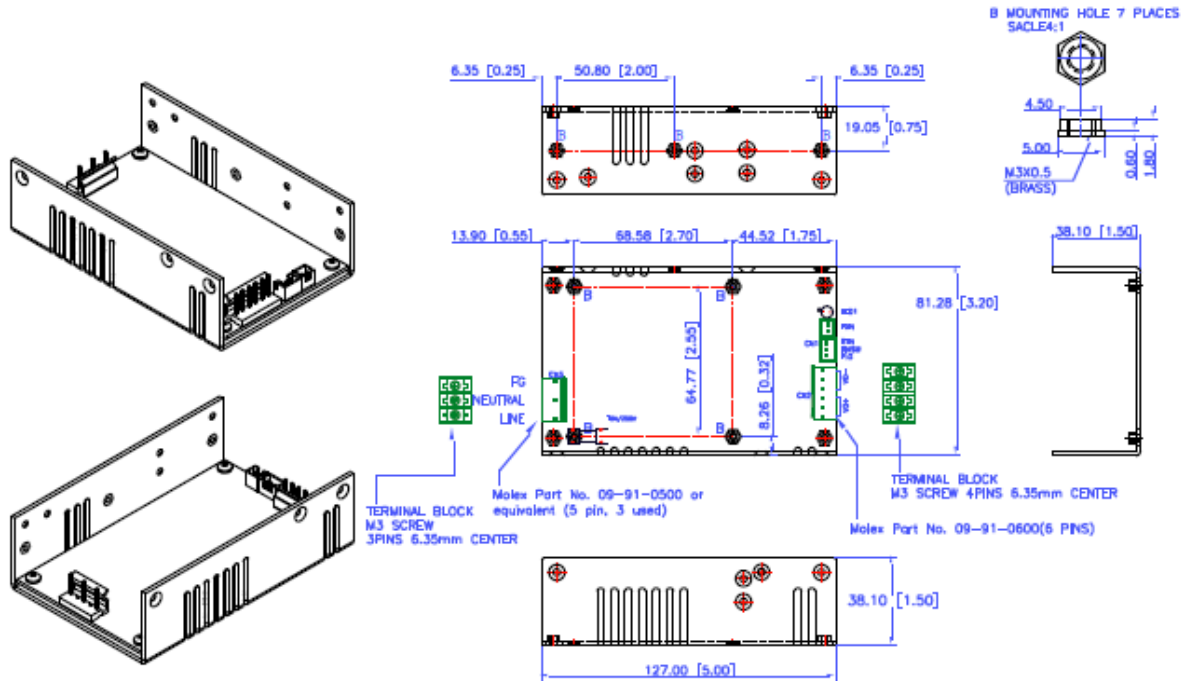
7 Places M3. Maximum Penetration 3.8mm see outline drawing for location

Connector Pin Assignment

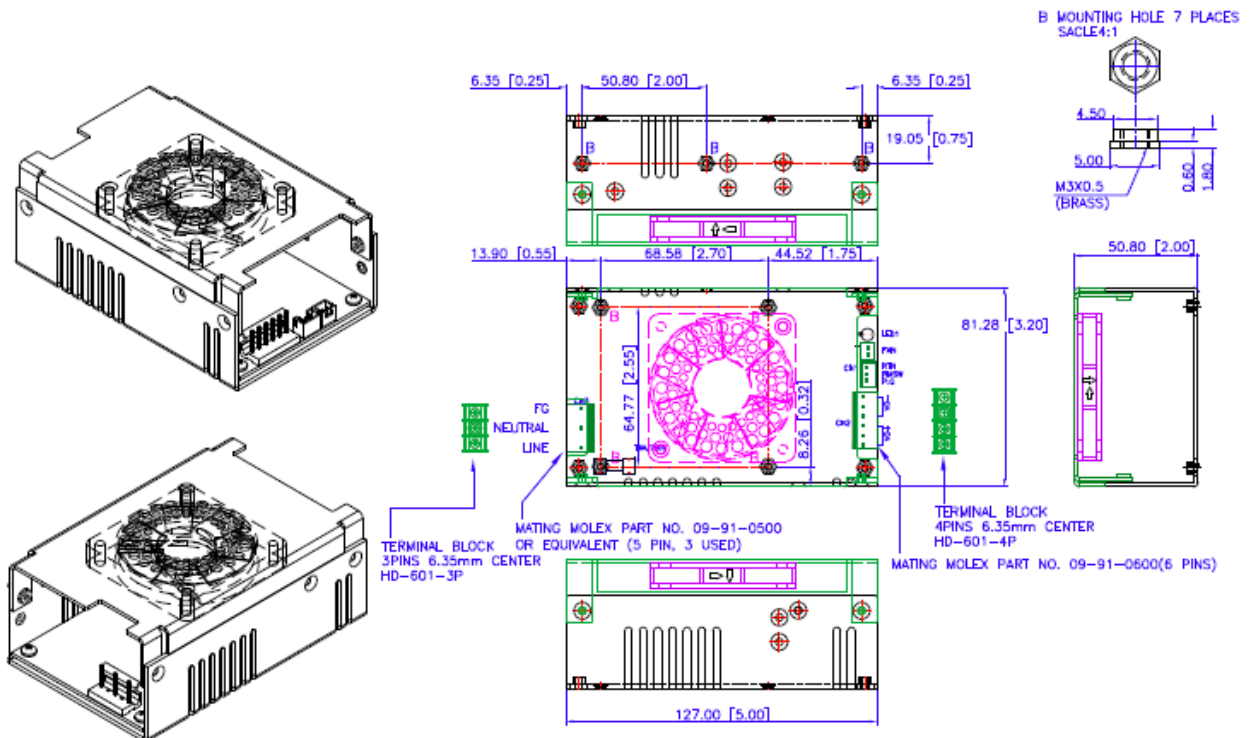
Howder	Molex
Pins 1-2: V+	Pins 1-3: V+
Pins 3-4: V-	Pins 4-6: V-

MECHANICAL DRAWINGS

PSRL0603U (U-Chassis Type): 5" x 3.2" x 1.5"; Weight: 14.11oz (400g)



PSRL0603F (Enclosed with Top Fan Type): 5" x 3.2" x 2"; Weight: 17.64oz (500g)



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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.

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