

FEATURES

- 2 Year Warranty
- Power Factor Corrected to EN61000-3-2 Class D
- 3.3/ 5/ 12/ 24V Dual Output Optional Combinations
- U-Chassis Type Drive Max 250W Under Air Convection
- U-Chassis & Enclosed with Built-in Fan Mechanical Options
- 1U Height Size and High Power Density: 6.25 Watts/cu Inches
- Both Medical & ITE Safety Approvals for the PSRL0402DM Series



E Type (Enclosed with built-in Fan): 9(L) x 5(W) x 1.6(H) inches.
 U Type (U-Chassis Type): 8(L) x 5(W) x 1.6(H) inches.



SPECIFICATIONS: PSRL0402D 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	6.35A at 90VAC full load
Inrush Current	35A max @ 230VAC with full load and cold start.
Leakage Current	Medical degree 300µA; ITE degree 1.5mA.
Remote ON/OFF	Designated as RSW on the CN3, requires a low signal to inhibit output.

OUTPUT SPECIFICATIONS

Output Voltage	See Table
Output Power Range	400 Watts max with airflow. (See Note 4)
Output Adjustability	Output user adjustable ±5% minimum.
Total Regulation	±5%
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 not exceed 5% over nominal voltage.
Turn On Delay	1 second maximum at 120VAC.
Remote Sense	Designated as RS+ and RS- on the CN3.

PROTECTION

Over Voltage Protection	Latching down will occur when output voltage exceeds 130% and recycle AC input to reset.
Short Circuit Protection	Trip without damage and auto-recovery.
Over-Temperature Protection	Protected in the event of excessive operating ambient 85°C and automatic recovery.
Over-Power Protection	C.C. mode 110-140% and auto-recovery.
Input Voltage Protection	Power shut down under 80 ±5VAC, and recovered over 86VAC.
Input Circuit Protection (Primary)	Two T8A/250V fuses inserted.

GENERAL SPECIFICATIONS

Switching Frequency	30KHz fixed frequency
Efficiency	75% minimum (measuring at 230V and full load).
Withstand Voltage	1500 VAC input line to chassis (2mA DC cut off current); 4000VAC 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 will go high 100-500ms after regulation and goes low 1ms before loss of regulation.
Power Supply On	Green LED designated as LED 1 on the PCB.
Grounding Test	Apply 40A from ground pin to the earthed connection point. Max allowable resistance is 0.1 ohm.
LED Display	Bi-color green LED in front panel (E Type only). Any protection occurred or RSW applied low signal will emit orange.



Wall Industries, Inc.

PSRL0402D Series
400 Watt with Airflow
Medical Approved Dual Output
AC/DC Switching Power Supply with Active PFC

SPECIFICATIONS (CONTINUED)	
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	Frequency 5 ~ 50Hz, acceleration ± 7.35 m/(s x s) on X, Y, and Z axis.
Cooling	U Type (U-Chassis): 400W max with 23CFM airflow or 250W max under convection cooling. E Type (Enclosed with side built-in fan): 400W
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	U Type (U-Chassis): 1.3Kg E Type (Enclosed with side built-in fan): 1.6Kg
Dimensions	U Type (U-Chassis): 8(L) x 5(W) x 1.6(H) inches. E Type (Enclosed with side built-in fan): 9(L) x 5(W) x 1.6(H) inches.
Warranty	2 years
SAFETY	
Emissions	FCC part15, CISPR 22 Class B, Conducted.
Safety Regulations	Approved to UL60950-1/ 60601-1, CSA C22.2 No. 60950-1-03/ 601.1-M90, TUV EN60950-1/ 60601-1, CE Mark (LVD) EN61204-3/ 60601-1-2/ 61000-3-2,3, and IEC61000-4 Series Regulations and CB.

OUTPUT VOLTAGE / CURRENT RATING CHART

Model	Output Voltage Range	Output Current		Regulation	Ripple & Noise
		Convection	22.95CFM		
PSRL0402Dx-0312	V ₁ : +3.3 VDC	30A	40A	$\pm 5\%$	$\pm 1\%$
	V ₂ : +12 VDC	16.7A	25A	$\pm 5\%$	$\pm 1\%$
PSRL0402Dx-0324	V ₁ : +3.3 VDC	30A	40A	$\pm 5\%$	$\pm 1\%$
	V ₂ : +24 VDC	8.34A	12.5A	$\pm 5\%$	$\pm 1\%$
PSRL0402Dx-0512	V ₁ : +5 VDC	30A	40A	$\pm 5\%$	$\pm 1\%$
	V ₂ : +12 VDC	16.7A	25A	$\pm 5\%$	$\pm 1\%$
PSRL0402Dx-0524	V ₁ : +5 VDC	30A	40A	$\pm 5\%$	$\pm 1\%$
	V ₂ : +24 VDC	8.34A	12.5A	$\pm 5\%$	$\pm 1\%$
PSRL0402Dx-1224	V ₁ : +12 VDC	16.7A	25A	$\pm 5\%$	$\pm 1\%$
	V ₂ : +24 VDC	8.3A	12.5A	$\pm 5\%$	$\pm 1\%$

NOTES

- PSRL0402D Series is designated as PSRL0402Dx-y where x can be U-chassis (Type U), U-chassis with top cover (Type C), or Enclosed with side built-in Fan (Type E), y can be 0312, 0324, 0512, 0524 and 1224 for output voltage.
- 10% minimum load is required for all outputs to maintain the ripple and regulation.
- Output is fully isolated.
- Total combined power of V1 and V2: 400W max. with 22.95 CFM forced air and 250W convection cooling for PSRL0402DU-1224; 400W for PSRL0402DE-1224 by self-cooling. 300W max. with 22.95 CFM forced air and 200W convection cooling for other PSRL0402DU-y models; 300W for other PSRL0402DE-y models by self-cooling.



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I/O CONNECTOR PIN ASSIGNMENT

Input Connector (CN1):

PSRL0402DU Series: mating Molex Part No. 09-91-0700 equivalent (7 pin, 5 used), or Howder Terminal block (HD-121-3P).

PSRL0402DE Series: IEC320 or equivalent Snap-in mounting type or DINKLE Terminal block (DT-35-A02W-03).

Output Connector (CN2):

Mating Molex 16 pins (09-91-1600), or Howder (HD-121-6P) M3.5, 8 pins terminal block, 9.5MM Center.

Output Pin Assignment:

(See table)

Logic signal connectors (CN3):

Mating JST XHP-9 or equivalent (CHYAO SHIUNN JS-2001-05) Mating Pins: JST SXH-002T-P0.6 for AWG 30 to 26.

Mounting Inserts:

6-32, M4 4 Places individually with maximum penetration 0.15 inches on bottom side and 0.25 inch on both sides