

### **ULTRA LEVEL** PRL0801D Series

240 Watt U-Frame Power Supply for ITE Applications

#### **FEATURES:**

- ◆ Compact 240W with 1U height Power Density: 10.41 watts/cu in
- ◆ Built-in Remote On-Off, Power Good, Fan Fail Alarm
- ◆ 5/ 12/ 24V Dual Output Optional Combinations
- ◆ Power Factor Corrected to EN61000-3-2 Class D
- Variable Fan Speed & Low Acoustical Noise
- High Quality & Reliable Component Usage
- Approved to UL TUV CE CB
- 4 Mechanical Options
- ◆ Full Range AC Input



E Type (Enclosed with end built-in fan): 3.2(W) x 6.5(L) x 1.6(H) inches



U Type (U-Chassis only): 3.2(W) x 5(L)x 1.5(H) inches.



U Type (With Top cover): 3.2(W) x 5(L) x 1.66(H) inches.



F Type (U-Chassis with top built-in fan ): 3.2(W) x 5(L) x 2(H) inches.

### PRODUCT SPECIFICATIONS:

Input Voltage: 90 ~ 264Vac full range, 47 ~ 63Hz.

Input Current: 5A at 90Vac.

Inrush Current: Max. 70A@230Vac & 35A@115Vac; cold start.

Power Factor Correction: PF>0.95 typical.

Transient Response: Returns to within 1% in less than 2.5mS for a 50% load change and the peak transient does not excess 5%. Overshoot: Turn-on & off overshoot 5% over nominal voltage.

Efficiency: 75% ~ 89% depends on model. Turn On Delay: 1 second maximum at 230 Vac. Hold Up Time: 16mS min. at 80% of full load. Adjustability: Output user adjustable +/-5% minimum.

Fan Drive: 12VDC/300mA offering to drive an external fan. Fan Fail (FF) Alarm: Designated as FF on pin 3 of CN3, two types

of logical signal provided, contact manufacturer.

Remote On-Off: Designated as INH on pin4 of CN3, requires a low

signal to inhibit output.

Power Supply On: Green LED designated as LED1 on the PCB. Power Good: PG on CN3 goes high 100-500mS after DC regulation and low at least 1mS before loss of regulation (Open collector).

Input Fusing Protection: One F5A/350V fuse inserted in primary. Over-Power Protection: 110~140% of I-Max; Auto-recovery. Short Circuit Protection: Trip without damage and auto-recovery.

Over Voltage Protection: Unit latching down when output exceed 130% and recycle AC input to reset.

Over-Temperature Protection: Unit protected of excessive operating ambient 110 °C and automatic recovery.

Switching Frequency: PFC 40K~66K Hz; PWM 55K~75K Hz.

Warranty: 2 years.

Storage Temperature: -20°C to 85°C.











**Operating Temperature**: 0°C to 70°C ambient, de-rating at 2.5% per degree from 50°C to 70°C.

Operating Humidity: 5% to 90% RH, Non-condensing. Storage Humidity: 5% to 95% RH, Non-condensing.

EMC: EN55032 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, IEC61000-4-8, IEC61000-4-11).

Safety Regulation: IEC/EN/UL 62368-1 .

**Vibration:** 5 ~ 50 Hz, acceleration 7.35 m/s\*s on X,Y and Z Axis. Leakage Current: < 1mA @ 264Vac.

HI-POT Test: 1500 VAC input line to chassis (10mA DC cut off

current); Isolating 3000VAC primary to secondary windings; Primary to core 1500VAC. All for 3 sec.

Grounding Test: Apply 25 A from ground pin of the three prong plug to the far most earth. Max allowable resistance 0.1 ohm.

MTBF: 100000 Hrs (according to MIL-HBK-217F) at 30 °C.

Cooling:

U Type: U-Chassis @240W max. with 25CFM airflow or 120W max. under air convection (same output ratings w/ top cover option).

F Type: U-Chassis with top built-in fan @240W max.

E Type: Enclosed with a built-in fan in the input end @240W max. Burn in: 45 +/- 5 degree C for 1 hour @230Vac with full load. Enclosure:

U Type: 5(L) x 3.2(W) x 1.5(H) inches.

U Type with top cover option: 5(L) x 3.2(W) x 1.66(H) inches.

F Type: 5(L) x 3.2(W) x 2(H)inches. E Type: 3.2(L) x 6.5(W) x 1.6(H)inches

Weight: Maximum U-type weight is 500g.



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#### **OUTPUT VOLTAGE / CURRENT RATING CHART:** Measured at output power connector.

Model			Max. Output Current		Ripple &
Number	Voltage	Type U (force air) & E & F	Type U (Convection)		Noise
PRL0801Dx-0512	V1:+ 5V	24A	12A	+/- 5%	1%
	V2:+ 12V	13.33A	6.67A	+/- 5%	1%
PRL0801Dx-0524	V1:+ 5V	24A	12A	+/- 5%	1%
	V2:+ 24V	6.67A	3.33A	+/- 5%	1%
PRL0801Dx-1224	V1:+ 12V	13.33A	6.67A	+/- 5%	1%
	V2:+ 24V	6.67A	3.33A	+/- 5%	1%

#### Note:

- \* PRL0801D series are designated as PRL0801Dx-y where x can be **U** (U-Chassis only or with optional vented top cover), **F** (U-chassis with top cover and fan installed) or **E** (Enclosed Type with rear side built-in fan), y can be **0512**, **0524**, **1224**.
- \* U Type: U-Chassis @240W max. with min. 25CFM forced airflow or 120W max. under air convection (Option: vented top cover).
- \* E Type: Enclosed with rear side built-in fan @240W max.
- \* F Type: U-Chassis with top built-in fan @240W max.
- \* Ripple and noise is measured from 10KHZ to 20MHz bandwidth at output with parallel 0.1µF ceramic and 22µF electrolytic capacitors.
- \* 10% minimum load is required to maintain the ripple and regulation.
- \* Output is fully isolated.

#### **OUTLINE DRAWING:**

#### Input Connector (CN1):

U and F Type: Mating Molex Part No. VHR-5N or equivalent (5pin, 3 used), or Terminal Block: Howder M3 screws 3 pin 6.35mm center Part No. HD-601-3P; PCB Labeling: L=Line; N=Neutral; G=Chassis Ground .

E Type: IEC320 snap-in mounting type or Terminal Block: Howder HD-602-3P.

**Output Connector (CN2):** 

Molex Part No. VHR-8N

Terminal block – Howder M3 Part No. HD-816-3P

**Output Pin Assignment:** 

(See table in right).

Mounting Inserts:

6 Places M3X0.7. Maximum Penetration 2.1mm sees outline drawing for location.

Logic signal connector (CN3):

Mating JST XHP-4 or equivalent (CHYAO SHIUNN JS-2001-04);

Mating Pins: JST SXH-002T-P0.6 FOR AWG 30 to 26. :

Fan driver connector (FAN1):

Mating connector is JST P/N XHP-3 (3 pins 0.98 pitch) or equivalent (CHYAO SHIUNN JS-2001-03).

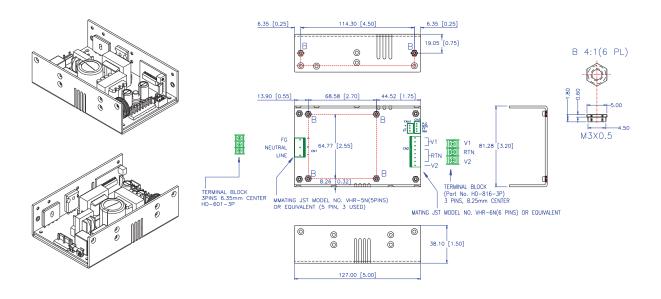
Howder	Molex	
V1 : Pin 3	V1 : Pin 6~8	
RTN : Pin 2	RTN : Pin 2~5	
V2 : Pin 1	V2 : Pin 1	



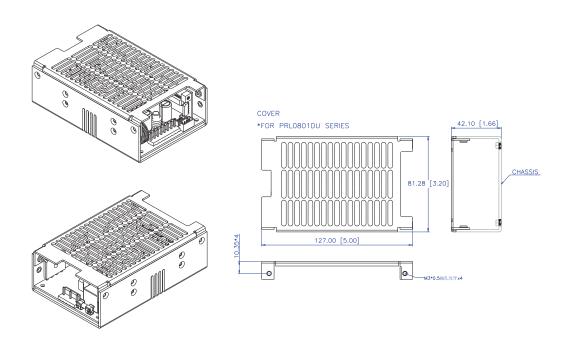
# PRL0801D Series

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#### U Type (U-Chassis only): 5(L) x 3.2(W) x 1.5(H) inches; Weight: 500g.



### U Type (U-Chassis with Top Cover): 5(L) x 3.2(W) x 1.66(H) inches; Weight: 550g.

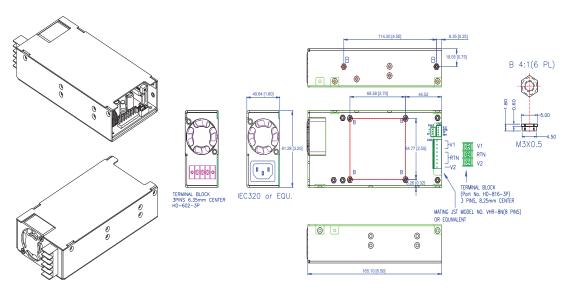




# PRL0801D Series

240 Watt U-Frame Power Supply for ITE Applications

#### E Type (Enclosed with Rear Side built-in Fan): 6.5(L) x 3.2(W) x 1.6(H)inches; Weight: 650g.



#### F Type (U-Chassis with Top built-in Fan):5(L) x 3.2(W) x 2(H) inches; Weight: 600g.

