

DRL1103D Series

120W ~ 240W AC-DC FPC Medical Switching Power Supply

FEATURES:

- Compact 240W with 1U height Power Density: 10.41 watts/cu in
- Built-in Remote On-Off, Power Good, Fan Fail Alarm
- Safety Approvals to IEC/EN/UL60601-1 3rd Edition
- Power Factor Corrected to EN61000-3-2 Class D
- 5/ 12/ 24V Dual Output Optional Combinations
- Variable Fan Speed & Low Acoustical Noise
- High Quality & Reliable Component Usage
- 3 - Mechanical Options
- Full Range AC Input



U Type (U-Chassis only):
3.2(W)x5(L)x1.5(H) inches.



E Type (Enclosed with end built-in fan):
3.2(W) x 6.5(L) x 1.6(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 exceed 5%.

Overshoot: Turn-on & off overshoot 5% over nominal voltage.

Efficiency: 75% ~ 87% 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 is an open collector output rated for 28VDC/5mA sink current maximum, it will go high when a fan failure is detected.

Remote On-Off: Designated as INH on pin 4 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: Dual T5A/250V fuses 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 and automatic recovery.

Switching Frequency: PFC 50K~70K Hz; PWM 45K~55K Hz.

Storage Temperature: -20 to 85.

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

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

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

EMC: EN60601-1-2 class B conducted / radiated; EN61000-3-2, 3; IEC61000-4-2, 3, 4, 5, 6, 8, 11.

Safety Regulation: EN/IEC/UL60601-1 3rd edition.

Vibration: 5 ~ 50 Hz, acceleration 7.35 m/s² on X, Y and Z Axis.

Leakage Current: < 300uA @ 264Vac.

HI-POT Test: 1500 VAC input line to chassis (10mA DC cut off current); Isolating 4000VAC 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.

Cooling:

U Type: U-Chassis @ 240W max. with 25CFM airflow or 120W max. under air convection.

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.

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.

Warranty: 2 years.

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

Model	Output Voltage	Max. Output Power		Regulation	Ripple & Noise
		Type U (force air) & E & F	Type U (Convection)		
DRL1103Dx-0512	V1:+5V	24A	12A	+/-5%	1%
	V2:+12V	13.33A	6.67A	+/-5%	1%
DRL1103Dx-1224	V1:+12V	13.33A	6.67A	+/-5%	1%
	V2:+24V	6.67A	3.33A	+/-5%	1%

Note:

- DRL1103D series are designated as DRL1103Dx-y where x can be U (U-Chassis only), F (U-chassis with top cover and fan installed) or E (Enclosed Type with rear side built-in fan) , y can be 0512, 1224.
- U Type: U-Chassis @240W max. with min. 25CFM forced airflow or 120W max. under air convection.
- 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 JST 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):

JST 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 4mm 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 (3pins 0.98pitch) or equivalent (CHYAO SHIUNN JS-2001-03).

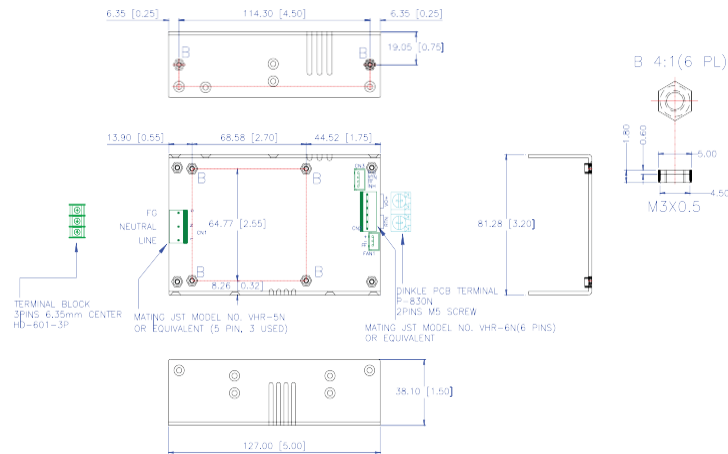
Howder	Molex
V1 : Pin3	V1 : Pin6~8
RTN : Pin2	RTN : Pin 2~5
V2 : Pin1	V2 : Pin 1

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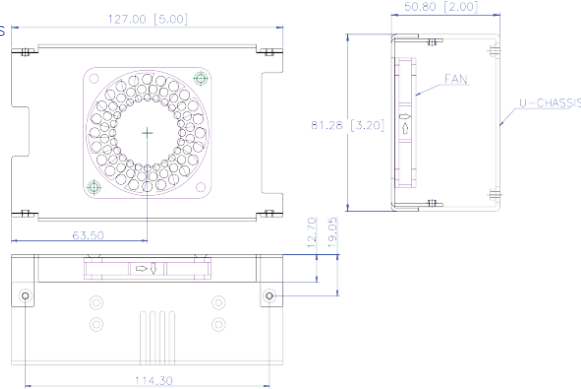
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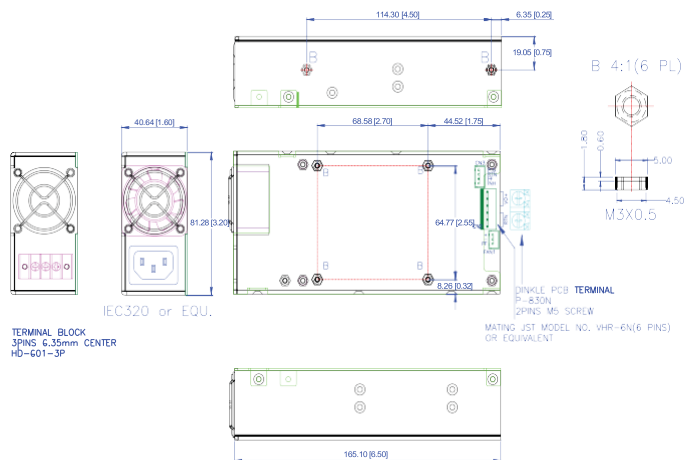


U Type (U-Chassis only): 5(L) x 3.2(W) x 1.5(H) inches; Weight: 500g.

*FOR PRL0801F & PRL1103F SERIES COVER WITH BUILT-IN DC FAN



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



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