

**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 3<sup>rd</sup> 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) x 5(L)x 1.5(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 a 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 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:** 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 °C and automatic recovery.  
**Switching Frequency:** PFC 50K~70K Hz; PWM 45K~55K Hz.

**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:** 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 3<sup>rd</sup> edition.  
**Vibration:** 5 ~ 50 Hz, acceleration 7.35 m/s\*s 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 °C .  
**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.

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

Model Number	Output Voltage	Max. Output Current		Regulation	Ripple & Noise
		Type U (force air) & E & F	Type U (Convection)		
PRL1103Dx-0512	V1:+ 5V	24A	12A	+/- 5%	1%
	V2:+ 12V	13.33A	6.67A	+/- 5%	1%
PRL1103Dx-1224	V1:+ 12V	13.33A	6.67A	+/- 5%	1%
	V2:+ 24V	6.67A	3.33A	+/- 5%	1%

**Note:**

\* PRL1103D series are designated as PRL1103Dx-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):**

Mating 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 2.1 mm sees outline drawing for location.

**Logic signal connector (CN3):**

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

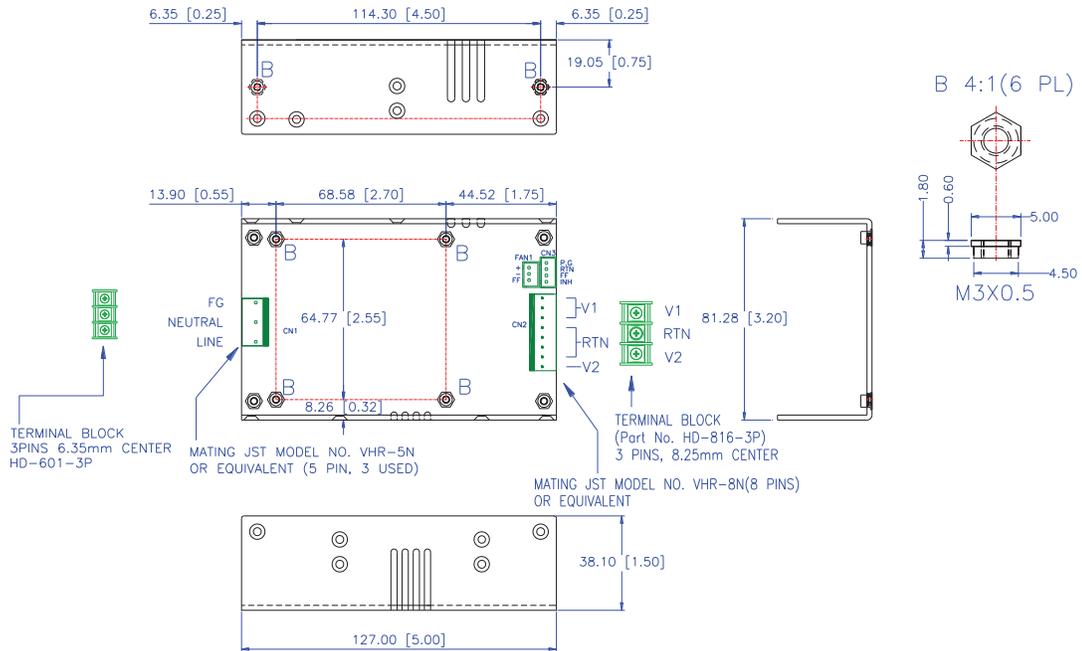
Mating Pins: JST SXH-002T-P0.6 FOR AWG 30 to 26. :

**Fan driver connector (FAN1):**

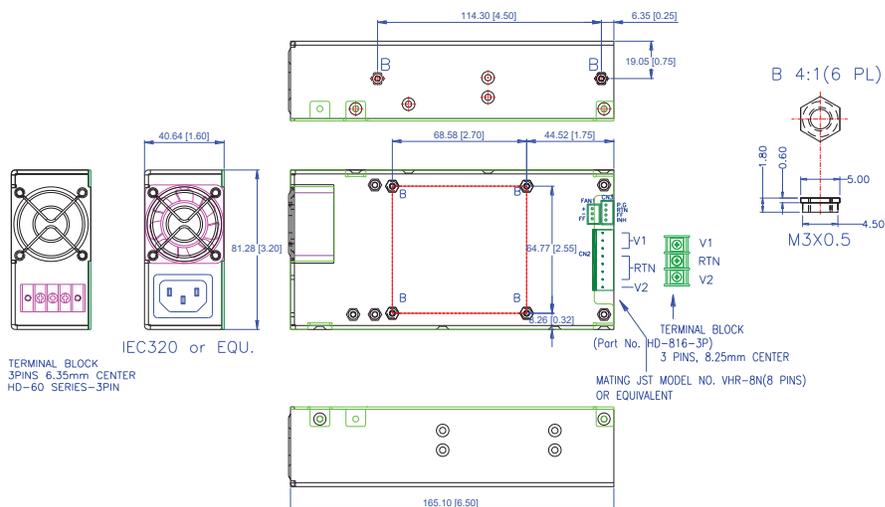
Mating connector is JST P/N XHP-3 (3 pins 0.98 pitch) or equivalent (CHYAO SHIUNN JS-2001-03).

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

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



**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.

