

320W AC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY PRL0602 SERIES

FEATURES:

- ◆ Smallest 320W with 1U height Power Density: 8.9 watts/cu in
- ◆ Power Factor Corrected to EN61000-3-2 class D
- ◆ Peak Power 700W within 500uS Duty Duration
- ◆ Approved to UL CUL TUV CB and CE.
- ◆ Output Voltages from 2 ~ 60Vdc
- ◆ 4 - Mechanical Options
- ◆ Full Range AC Input



U Type: 6(L) x 4(W) x 1.5(H)"



E Type: 7(L) x 4(W) x 1.6(H)"



F Type: 6(L) x 4(W) x 2(H)"



U Type with cover: 6(L) x 4(W) x 1.57(H)"

PRODUCT SPECIFICATIONS:

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

Input Current: 6A at 90Vac.

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

PFC: Power Factor Correction pass EN61000-3-2 class D.

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% for 5V, 80% for 12V and 83% minimum for others output @ 230V and full load.

Turn On Delay: 1 second maximum at 120 Vac.

Hold Up Time: 20mS 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 CN1 is a open collector output rated for 15VDC/5mA sink current maximum, it will go high when a fan failure is detected.

Remote On-Off: Designated as INH on pin4 of CN1, requires a low signal to inhibit output.

Power Supply On: Green LED designated as LED1 on the PCB.

Power Good: Designated as PG on CN1 and TTL high 100-500mS after DC regulation. It goes low at least 1mS before loss of regulation and has ability to sink 100mA.

Input Fusing Protection: One T6A/250V fuse inserted in primary.

Over-Power Protection: Fold back mode 110~140%; 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 95 °C±5 °C, and automatic recovery.

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



Switching Frequency: 23K Hz fixed frequency.

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

Storage Temperature: -20 to 85 °C.

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

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

Emissions: FCC Part 15, CISPR 22 class B, Conducted.

Safety Regulation: Approved to UL60950-1, CSA C22.2 No. 60950-1-03, TUV EN60950-1, CE Mark (LVD) EN61000-3-2,3 & IEC61000-4 Series Regulations and CB.

Leakage Current: Regular Type 3.5mA @ 240Vac.

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.

Warranty: 2 years.

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

Cooling:

U Type: U-Chassis @320W max. with 28.5CFM forced airflow or 180W convection cooled output (same output ratings w/ top cover option).

E Type: Enclosed with rear side built-in fan @320W max.

F Type: Enclosed with top built-in fan @320W max.

Enclosure:

U Type: 6(L) x 4(W) x 1.5(H) inches.

U Type with top cover option: 6(L) x 4(W) x 1.57(H) inches.

E Type: 7(L) x 4(W) x 1.6(H) inches.

F Type: 6(L) x 4(W) x 2(H)inches.

Burn in: 45 +/- 5 degree C for 1 hour @230Vac with full load.

Weight: Maximum weight is 800g.

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

Model	Output Range	Preset Voltage	Max. Output Power or Current		Regulation	Ripple & Noise
			Type U & E & F (forced air)	Type U (Convection)		
PRL0602x-05	2 ~ 6V	5V	45A	26A	+/- 1%	50mV
PRL0602x-09	7 ~ 9V	9V	35.5A	20A	+/- 1%	1%
PRL0602x-12	10 ~ 13.8V	12V	320W	180W	+/- 1%	1%
PRL0602x-15	14 ~ 15.5V	15V	320W	180W	+/- 1%	1%
PRL0602x-18	16 ~ 20V	18V	320W	180W	+/- 1%	1%
PRL0602x-24	21 ~ 26V	24V	320W	180W	+/- 1%	1%
PRL0602x-28	27 ~ 34V	28V	320W	180W	+/- 1%	1%
PRL0602x-36	35 ~ 42V	36V	320W	180W	+/- 1%	1%
PRL0602x-48	43 ~ 50V	48V	320W	180W	+/- 1%	1%
PRL0602x-54	51 ~ 60V	54V	320W	180W	+/- 1%	1%

Note:

- * PRL0602 series are designated as PRL0602x-y where x can be **E** (Enclosed Type with rear side built-in fan) or **F** (Enclosed Type with top side built-in fan) or **U** (U-Chassis), y can be **05, 09, 12, 15, 18, 24, 28, 36, 48, 54**.
- * PRL0602U series has one vented top cover option
- * **PRL0602U Series:** U-Chassis @320W max. with min. 28.5CFM forced airflow or 180W convection cooled output.
- * **PRL0602E Series:** Enclosed with rear side built-in fan @320W max.
- * **PRL0602F Series:** Enclosed with top built-in fan @320W max.
- * All output range are covered in agencies certification and the preset voltage will be set as standard models if any request is not preset output then should contact us in advance.
- * Ripple and noise is measured from 10KHZ to 20MHz bandwidth at output with parallel 0.1µF ceramic and 22µF electrolytic capacitors.
- * Providing peak power to 700W within 500µs for all models, longer duty duration need contact manufacture.
- * 1% minimum load is required to maintain the ripple and regulation.
- * Output is fully isolated.

OUTLINE DRAWING:

Input and Output Connector (CN2):

Terminal block - Howder Part No. HB-95-7P

Molex - Mating JST VH series. Input 5 pin connector (3 pin used, pin 2 & pin 4 removed), PCB labeling: L = Line; N = Neutral; G = Chassis Ground. Output 10 pin connector.

Output Pin Assignment:

(See table in right).

Mounting Inserts:

6 Places M4X0.7 (8-32 Optional). Maximum Penetration 4mm sees outline drawing for location.

Logic signal connector (CN1):

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

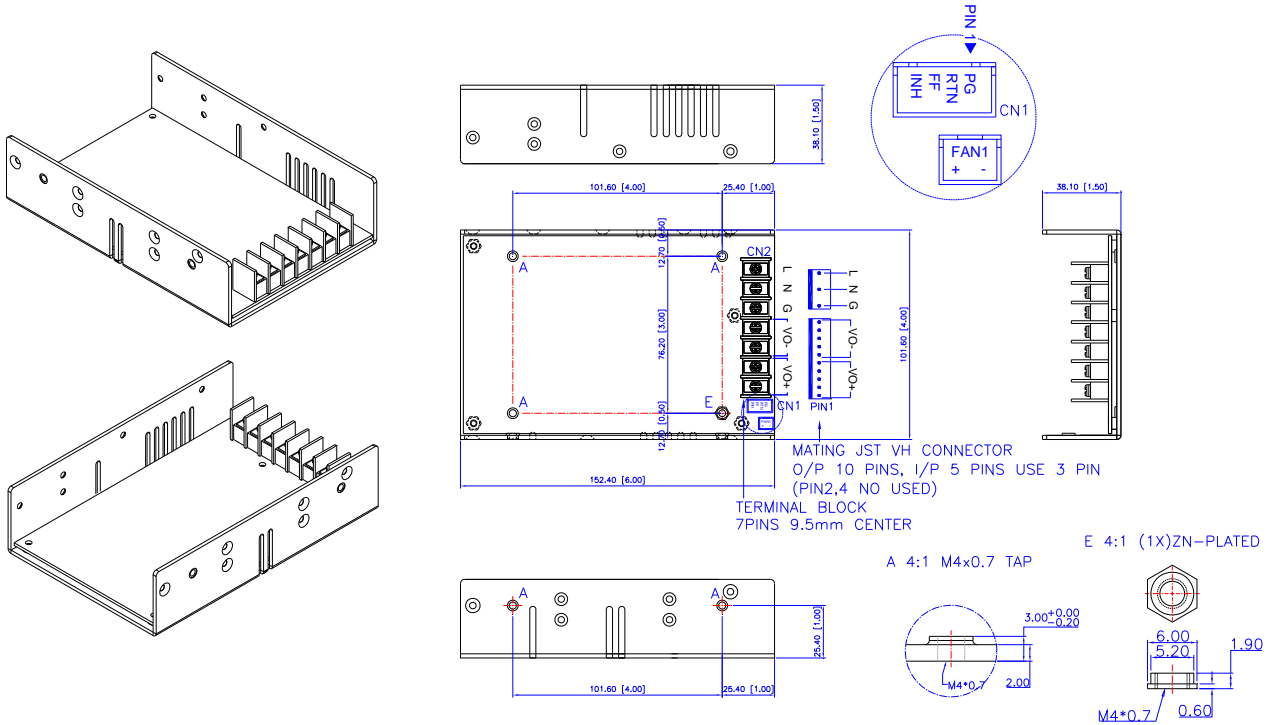
Mating Pins: JST SXH-002T-P0.6 FOR AWG 30 to 26.

Fan driver connector (FAN1):

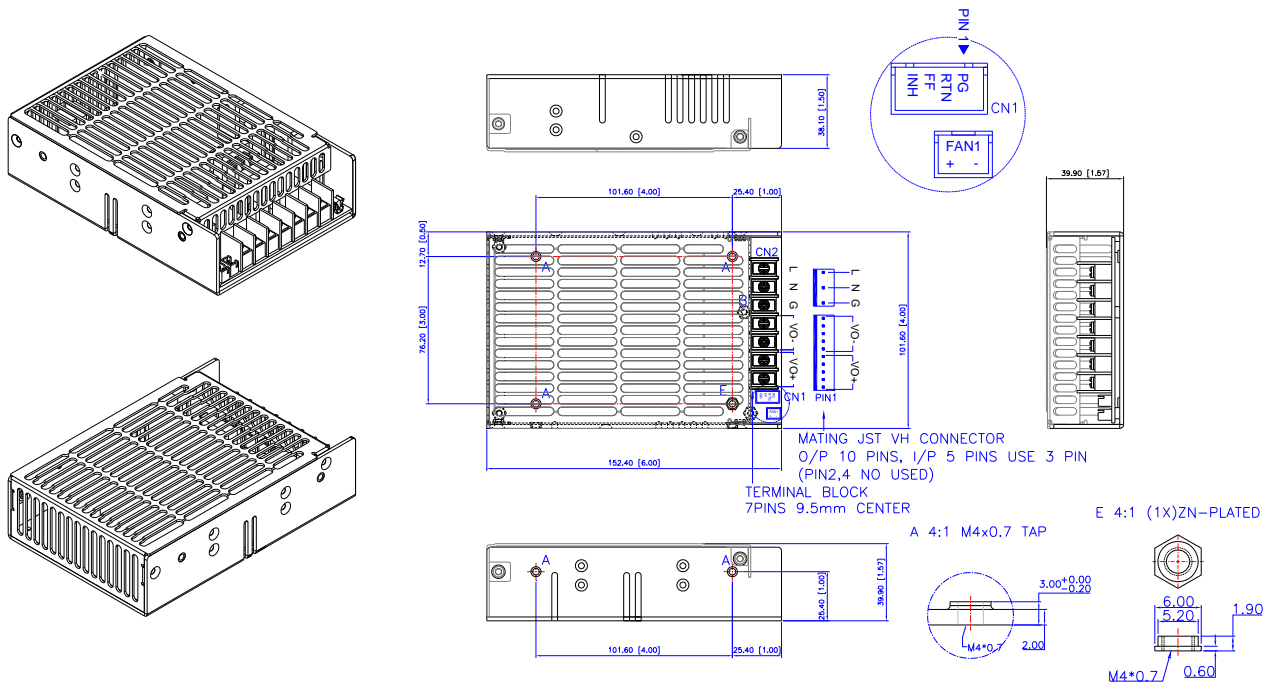
Mating connector is JST P/N XHP-2 (2 pins 0.98 pitch) or equivalent (CHYAO SHIUNN JS-2001-02).

Howder	Molex
Pins 1 ~ 2: V+	Pins 1 ~ 5: V+
Pins 3 ~ 4: V-	Pins 6 ~ 10: V-
Pin 5: GND	Pin 12: GND
Pin 6: Neutral	Pin 14: Neutral
Pin 7: Line	Pin 16: Line

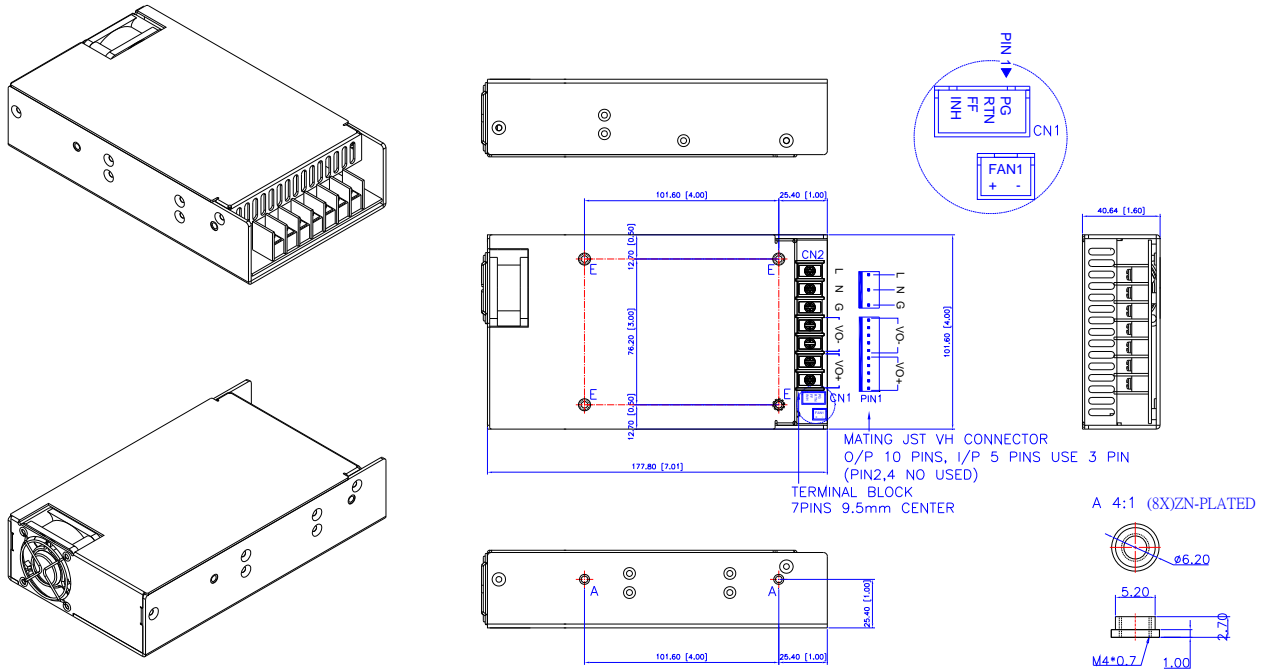
PRL0602U Series (U-Chassis Type only): 6(L) x 4(W) x 1.5(H) inches; Weight: 600g.



PRL0602U Series with Top Cover Option: 6(L) x 4(W) x 1.57(H) inches; Weight: 650g.



PRL0602E Series (Enclosed with Rear Side built-in Fan Type): 7(L) x 4(W) x 1.6(H)inches; Weight: 750g.



PRL0602F Series (Enclosed with Top built-in Fan Type): 6(L) x 4(W) x 2(H)inches; Weight: 800g.

