



# ULTRA LEVEL TECH CO., LTD.

www.ultralevel.com.tw Tel:+886-2-29180118 Fax:+886-2-29181465

We Supply the Power Customers Need ISO9001

## 500W ~ 600W AC-DC ACTIVE PFC SWITCHING POWER SUPPLY PRL1301D DUAL OUTPUT SERIES SPECIFICATION



U type: 8(L) x 5(W) x 1.6(H) inches



F type: 8(L)×5(W) × 2 (H) inches E type: 9(L)×5(W) ×1.6(H) inches



### FEATURES:

- ◆ 600W high power density (Max. 9.3 watts per cubic inch) with 1U height
- ◆ Design meets IEC/EN/UL60950-1 Latest Edition
- ◆ Power Factor Corrected to EN61000-3-2 class D
- ◆ High Quality & Reliable Component Usage
- ◆ U-Chassis & Enclosed with built-in fan Mechanical Options
- ◆ 5/ 12/ 24V Dual Output Optional Combinations
- ◆ Full Range AC Input

### PRODUCT SPECIFICATIONS:

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

**Input Current:** 8.5A at 90VAC full load.

**Inrush Current:** 70A peak maximum.(Measuring at 230VAC and full load cold start.)

**Power Factor Correction:** Pass EN61000-3-2 class D

**Fan Drive:** 12VDC/400mA is available to drive an external fan.

**Transient Response:** Output voltage 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 and turn-off overshoot should not exceed 5% over nominal voltage.

**Efficiency:** 80% minimum (Measuring at 115V and full load)

**Turn On Delay:** 2 second maximum at 115 VAC.

**Hold Up Time:** 16ms minimum at 115VAC and 75% of rated maximum load.

**Adjustability:** Output user adjustable +/-5% minimum.

**Remote On-Off:** Designated as RSW on the CN3, requires a low signal to inhibit output.

**Power Supply On:** When the Bi-color LED emit green light that indicates the supply is operating. When any protection is occurred or RSW is applied a low signal, the Bi-color LED will emit orange light.

**Power Good:** Designated as PG on CN3. This signal will go high 100-500ms after the output reaches the regulation limit. It goes low at least 1 ms before loss of regulation and has ability to sink 100mA.

**Input Circuit Protection (primary):** One T10A/250V fuse inserted.

**Input Voltage Protection:** Power shut down under 80 +/-10Vac, and recovered over 90 Vac.

**Over-Power Protection:** Total power limits at 110-140% of the rated output current and recovers automatically.

**Over-Voltage Protection:** Output is protected against over voltage. Unit latching down will occur when Output exceed 130%, and recycle AC input to reset

**Over Temp. Protection:** Power supply protected in the event of excessive operating ambient 110±5 degree C, and automatic recovery.



**Short Circuit Protection:** Short circuit can be continuous without damage and recovers automatically.

**Operating Temperature:** 0°C to +50°C

**Switching Frequency:** 60kHz PFC, 28 kHz PWM.

**Storage Temperature:** -20 to +85 degrees C.

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

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

**Vibration:** Frequency 5 to 50 Hz, Acceleration +/-7.35 M/ (SxS) on X,Y and Z Axis

**EMC:** CE(EN 55022&EN 55024),FCC(Part 15 Subject J class B, CISPR 22 class B).

**Safety:** UL 60950-1,CSA C22.2 No.60950-1,IEC60950-1, CB, TUV.

**Leakage Current:** The AC leakage current shall not exceed 3.5mA when the power supply is connected to a supply voltage equal to the upper limit of the rated voltage range.

**HI-POT Test:** The power supply shall withstand for 3 Sec without breakdown the application of a 1500 VAC supply voltage applied between both input line and chassis (10mA ac cut off current).

Isolating transformers shall withstand 3000VAC applied between primary and secondary windings and primary to core 1500VAC.

**Grounding Test:** Apply 25 A current from the ground pin of the three prong plug to the far most earthed connection point. The maximum allowable resistance measured during the test is 0.1ohm

**Warranty:** 2 years.

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

**Enclosure:**

U Type: 8(L) x 5(W) x 1.6(H) inches

E Type: 9(L)×5(W) ×1.6(H) inches

F Type: 8(L)×5(W) × 2 (H) inches

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

**Weight:** Max. weight is1600g



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

Model	Output rating					Total Regulation	Ripple & Noise
	Voltage (Vdc)	With 25CFM min		Without external forced airflow (x=U only)			
		Current (A)	Power (W)	Current (A)	Power (W)		
PRL1301Dx-0512	5V	50	500	35	300	+/- 5%	+/- 1%
	12V	33.33		16.6		+/- 5%	+/- 1%
PRL1301Dx-0524	5V	50		35		+/- 5%	+/- 1%
	24V	16.67		5.33		+/- 5%	+/- 1%
PRL1301Dx-1224	12V	33.33	600	25	400	+/- 5%	+/- 1%
	24V	16.67		12.5		+/- 5%	+/- 1%

### NOTE:

\*PRL1301D series are designated as PRL1301Dx-y where x can be E (enclosed type with end side built-in fan), U (U-chassis) or F (with top cover and a built-in fan), y can be 0512, 0524, 1224.

\*10% minimum load is required for all outputs to maintain the ripple and regulation Output is fully isolated

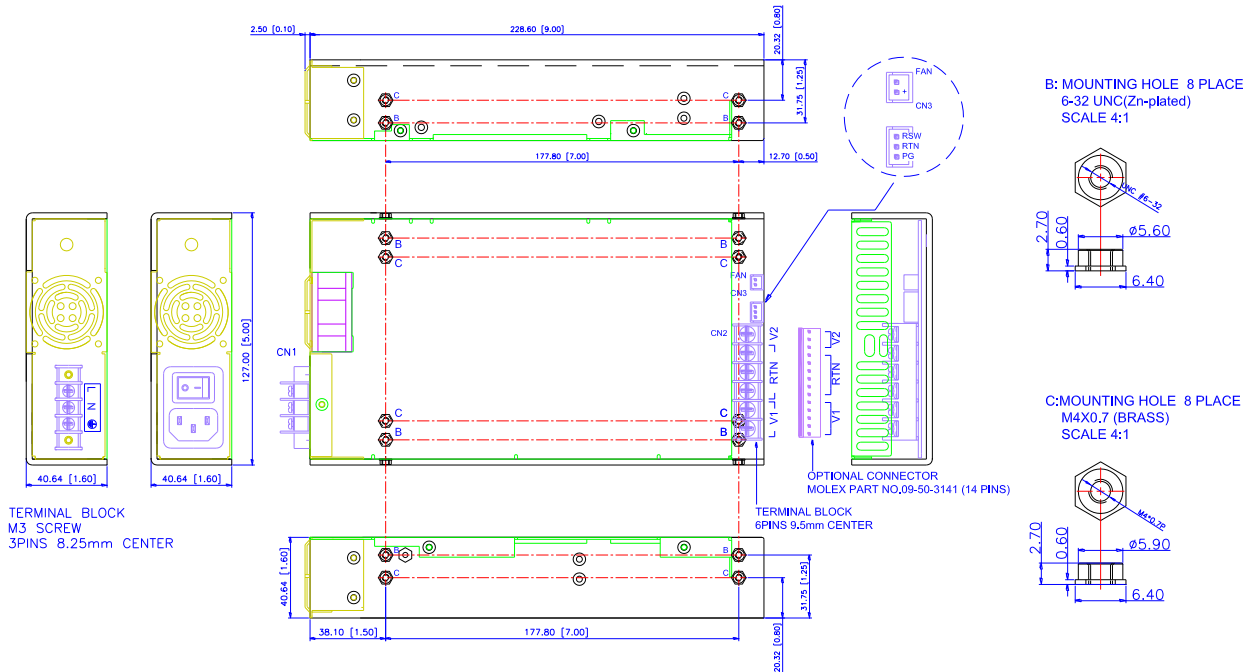
\*Total combined power of V1 and V2:

600W Max. for PRL1301D-1224 forced air cooling.

500W Max. for other models forced air cooling.

\*For models U chassis type which need external forced airflow min. 25 CFM to achieve maximum power.

\*Ripple and noise is measured from 10KHZ to 20MHZ bandwidth at output terminals with parallel 0.1µF ceramic and 22µF electrolytic capacitor

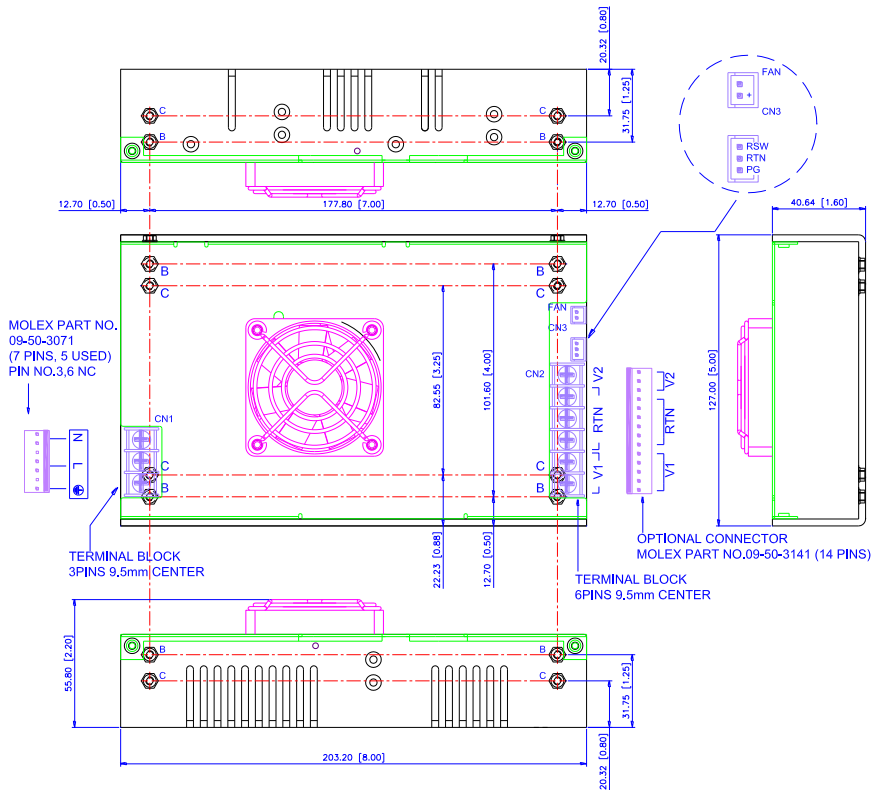




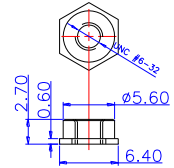
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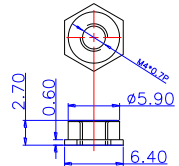
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B: MOUNTING HOLE 8 PLACE  
6-32 UNC(Zn-plated)  
SCALE 4:1



C: MOUNTING HOLE 8 PLACE  
M4X0.7 (BRASS)  
SCALE 4:1

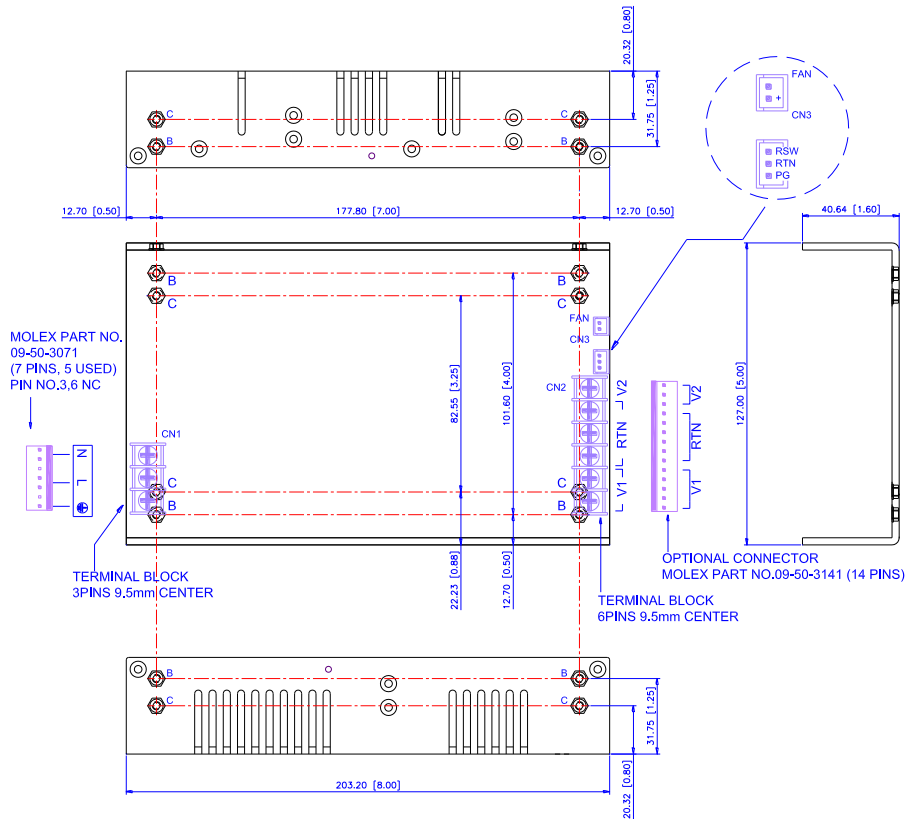




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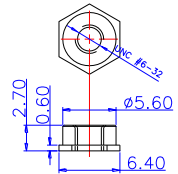
MOLEX PART NO.  
09-50-3071  
(7 PINS, 5 USED)  
PIN NO.3,6 NC

TERMINAL BLOCK  
3PINS 9.5mm CENTER

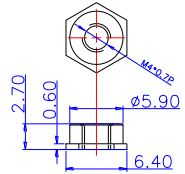
TERMINAL BLOCK  
6PINS 9.5mm CENTER

OPTIONAL CONNECTOR  
MOLEX PART NO.09-50-3141 (14 PINS)

B: MOUNTING HOLE 8 PLACE  
6-32 UNC(Zn-plated)  
SCALE 4:1



C: MOUNTING HOLE 8 PLACE  
M4X0.7 (BRASS)  
SCALE 4:1





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## I/O Connector pin assignment:

### AC Input Connector(CN1):

PRL1301DU/DF Series: Mating Molex Part No. 09-50-3071 or equivalent (7 pin,5 used)

Howder Terminal block Part No. HD-121-3P

PRL1301DE Series: IEC320 or equivalent Snap-in mounting type or DINKLE Terminal block Part No. DT-35-A02W-03 (3 pin).

### Output Connector (CN2):

Howder Terminal block Part No. HD-121-6P

Mating Molex Part No. 09-50-3141 (14 pin)

### Output Pin Assignment: (See below table).

### Logic signal connectors (CN3):

Mating JST XHP-3 or equivalent (CHYAO SHIUNN JS-1001-03)

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

PIN1: RST PIN2: RTN PIN3: P.G

**Mounting Inserts:** 6-32, M4 4Places individually with maximum penetration 0.15” on bottom side and 0.25” on both side

	V1+	V0-	V2+
MOLEX	PINS 1-5	PINS 6-11	PINS 12-14
HOWDER	PINS 1-2	PINS 3-5	PINS 6