



# ULTRA LEVEL TECH CO., LTD.

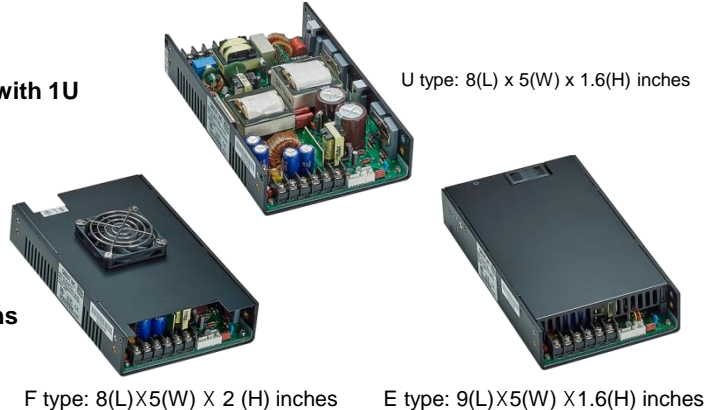
www.ultralevel.com.tw Tel:+886-2-29180118 Fax:+886-2-29181465

We Supply the Power Customers Need ISO9001

## PRL1301 SINGLE OUTPUT SERIES 300W ~ 600W AC TO DC ACTIVE PFC SWITCHING POWER SUPPLY SPECIFICATION

### FEATURES:

- ◆ 600W high power density (Max. 9.3 watts per cubic inch) with 1U height
- ◆ Design meets IEC/EN/UL62368-1 Latest Edition
- ◆ Active Power Factor Corrected to EN61000-3-2 class D
- ◆ Peak Power 900W within 500uS Duty Duration
- ◆ High Quality & Reliable Component Usage
- ◆ U-Chassis & Enclosed with built-in fan Mechanical Options
- ◆ Output Voltages for single output from 3 ~ 60Vdc
- ◆ 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:** Power factor correction meets 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.

**Remote Sense:** Designated as RS+ and RS- on the CN3, max. 0.5V compensation for cable losses with respect to the main output voltage under 15V units.

**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 100-500 ms after the output reaches the regulation limit. It goes low at least 1 ms before loss of regulation.

**Input Fusing Protection:** One T10A/250V fuse inserted in primary.

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

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

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

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

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

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



**Operating Temperature:** 0°C to 50°C ambient.

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

**Storage Temperature:** -20°C to 85°C.

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

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

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

**Safety Regulation:** Approved UL62368-1, EN60950 and CB certificate available.

**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 1600 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 1800VAC.

**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)X5(W) X1.6(H) inches

F type: 8(L)X5(W) X 2 (H) inches

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

**Weight:** Maximum weight is 1600g.



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

Model	Output rating					Regulation	Ripple & Noise
	Voltage (Vdc)	With 25CFM min		Without external forced airflow (x=U only)			
		Current (A)	Power (W)	Current (A)	Power (W)		
PRL1301x-05	3-5	100	500	48	-	+/- 1%	80mV
PRL1301x-10	6-10	60	600	30.76	-	+/- 1%	1%
PRL1301x-12	11-13	54.54	600	30.76	-	+/- 1%	1%
PRL1301x-15	13.5-16	44.44	600	29.62	400	+/- 1%	1%
PRL1301x-18	17-21	35.29	600	23.52	400	+/- 1%	1%
PRL1301x-24	22-25	27.27	600	18.18	400	+/- 1%	1%
PRL1301x-28	26-30	23.07	600	15.38	400	+/- 1%	1%
PRL1301x-36	31-40	19.35	600	12.9	400	+/- 1%	1%
PRL1301x-48	41-50	14.63	600	9.75	400	+/- 1%	1%
PRL1301x-54	50-60	11.76	600	7.84	400	+/- 1%	1%

### Note:

- PRL1301 series are designated as PRL1301x-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 05, 10, 12, 15, 18, 24, 28, 36, 48 or 54.
- Providing peak power to 900W within 500uS for all models, longer duty duration need contact manufacture.
- 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.
- For models U chassis type which need external forced airflow min. 25 CFM to achieve maximum power.
- 1% minimum load is required to maintain the ripple and regulation.
- Output is fully isolated
- Ripple and noise is measured from 10KHZ to 20MHz bandwidth at output terminals with parallel 0.1μF ceramic and 22μF electrolytic capacitors.

## OUTLINE DRAWING:

### Input Connector (CN1):

PRL1301U/F Series: Mating Molex Part No. 09-50-3071 or equivalent (7 pin,5 used)

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

PRL1301E 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 table in right).

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

### Logic signal connector (CN3):

Mating JST XHP-3 or equivalent (CHYAO SHIUNN JS-1001-05)

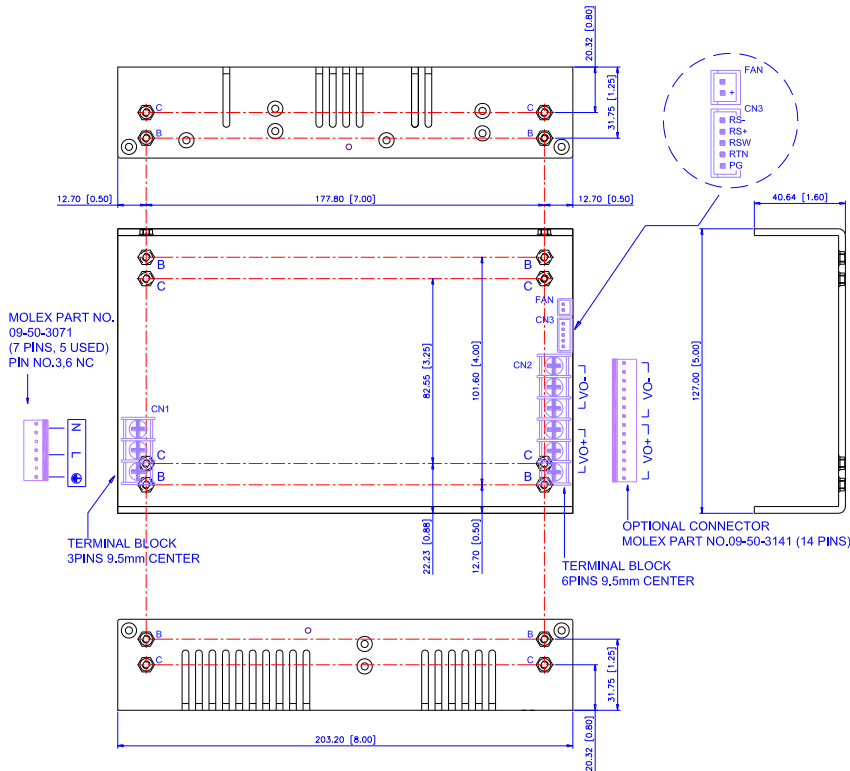
Mating Pins: JST SXH-002T-P0.6 FOR AWG 30 TO 26

PIN1: RS- PIN2: RS+ PIN3: RSW PIN4: RTN PIN5: P.G

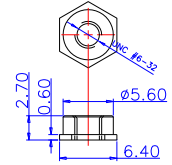
Howder	Molex
Pins 1 ~ 3: VO+	Pins 1 ~ 7: VO+
Pins 4 ~ 6: VO-	Pins 8~ 14: VO-

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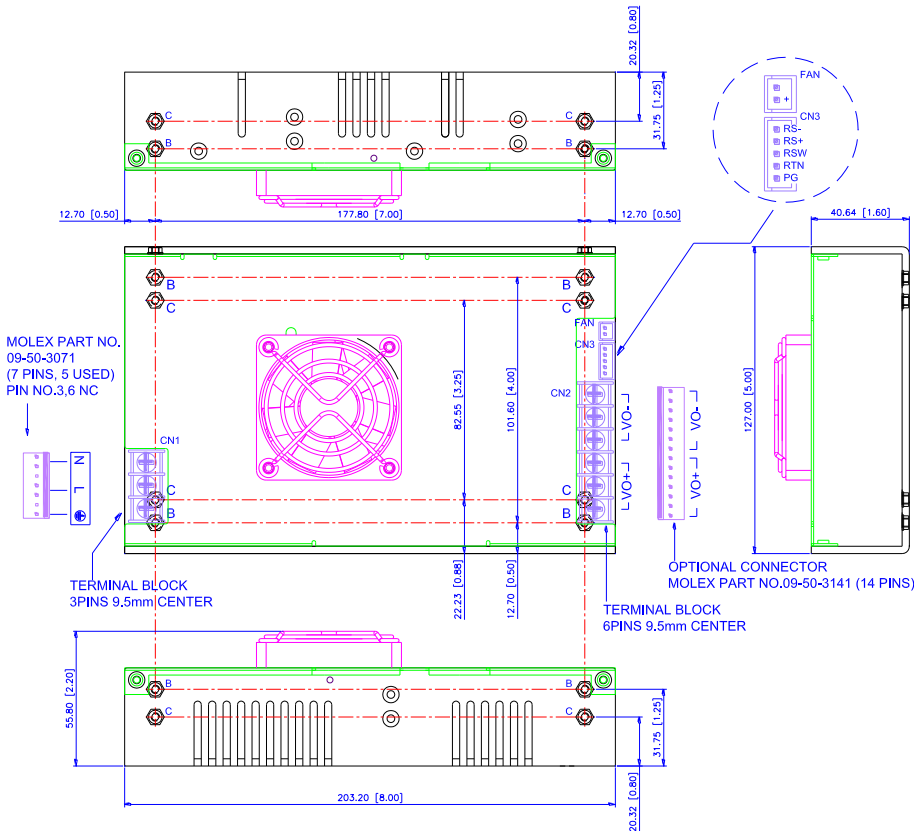
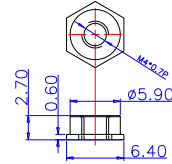
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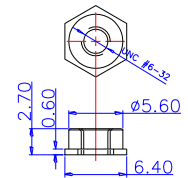
B: MOUNTING HOLE 8 PLACE  
6-32 UNC(Zn-plated)  
SCALE 4:1



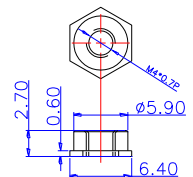
C: MOUNTING HOLE 8 PLACE  
M4X0.7 (BRASS)  
SCALE 4:1



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6-32 UNC(Zn-plated)  
SCALE 4:1

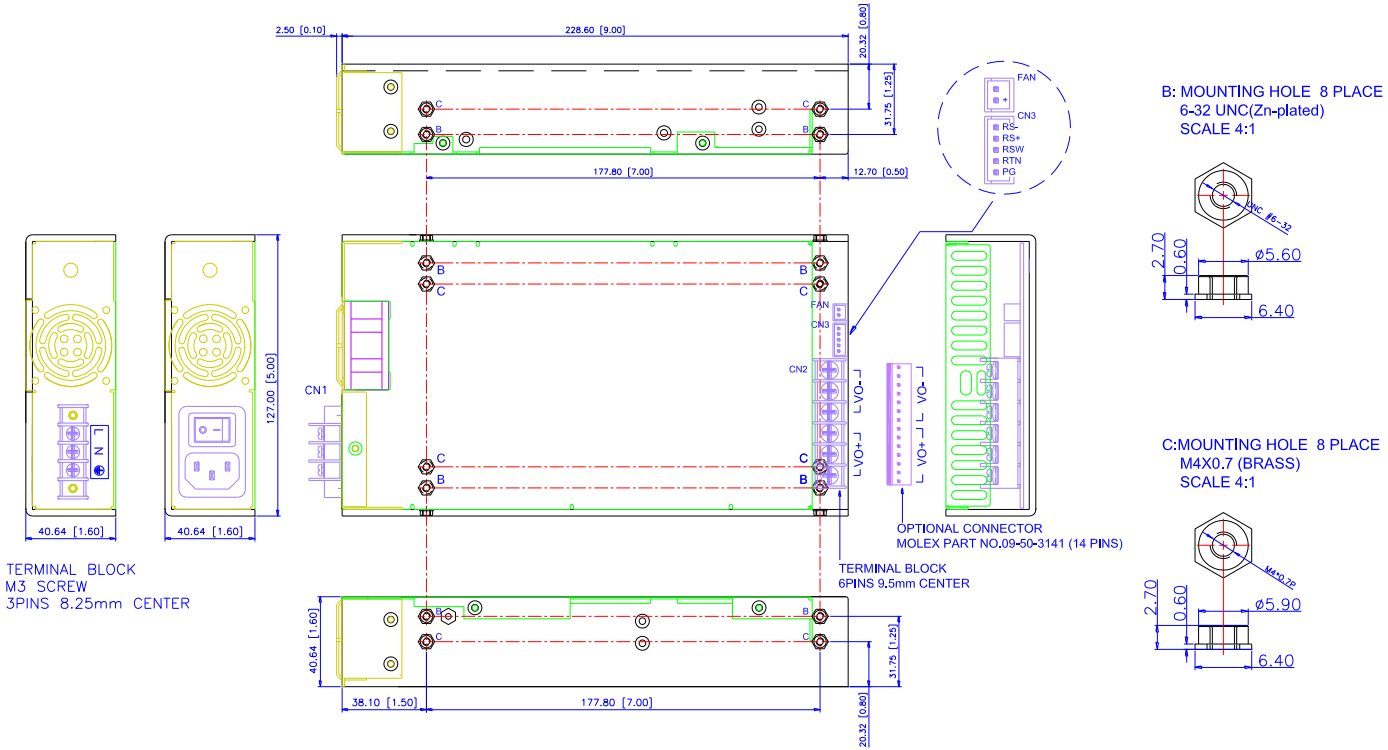


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M4X0.7 (BRASS)  
SCALE 4:1



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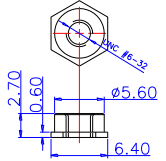


TERMINAL BLOCK  
M3 SCREW  
3PINS 8.25mm CENTER

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

TERMINAL BLOCK  
6PINS 9.5mm CENTER

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



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

