



DRL0602DN Series

220-400 Watt AC/DC Active PFC Switching Power Supply

FEATURES:

- Compact 400W with 1U height Power Density: 11.11 watts/cu in
- Built-in Remote On-Off, Power Good, Fan Fail Alarm
- 5/ 12/ 24/ 48V Dual Output Optional Combinations
- Power Factor Corrected to EN61000-3-2 class D
- Variable Fan Speed & Low Acoustical Noise
- High Quality & Reliable Component Usage
- Approved to UL CUL TUV CB and CE
- 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)"



C Type: 6(L) x 4(W) x 1.57(H)"

PRODUCT SPECIFICATIONS:

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

Input Current: 8A at 90Vac.

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

Power Factor Correction: >0.9 @ Vin: 230Vac full load.

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% minimum (Measuring at 230V and full load).

Turn On Delay: 1.5 second maximum at 120 Vac.

Hold Up Time: 16 Msec minimum at 120 VAC and 75% of rated maximum 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 to monitor the status of fan. This signal is an 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.

Input Fusing Protection: One T8A/250V fuse 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 ± 5°C, and automatic recovery.

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

Switching Frequency: PFC 68 kHz, PWM 55 kHz for D1224 & 50 kHz for other models.



Storage Temperature: -20 to 85 °C.

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

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

EMC: EN55022 class B conducted / radiated, EN61000-3-2, EN61000-3-3; EN55024 (IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-11).

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

Safety Regulation: UL60950-1, CSA C22.2 No. 60950-1 and CB certificate.

Leakage Current: < 3.5mA @ 264Vac.

(optional for 500uA max. at 240Vac / 300uA max. at 120Vac input)

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:

Internal fan is provided.

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

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.

Weight: Maximum weight is 800g.



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

Model Number	Output Voltage	Max. Output Current		Regulation	Ripple & Noise
		Type U & E & F (force air)	Type U, C (Convection)		
DRL0602DNx-0512	V1:+5V	30A	15A	+/- 5%	1%
	V2:+12V	20.83A	13.33A	+/- 5%	1%
DRL0602DNx-0524	V1:+5V	30A	15A	+/- 5%	1%
	V2:+24V	10.42A	6.67A	+/- 5%	1%
DRL0602DNx-0548	V1:+5V	30A	15A	+/- 5%	1%
	V2:+48V	5.21A	3.33A	+/- 5%	1%
DRL0602DNx-1224	V1:+12V	20.83A	12.5A	+/- 5%	1%
	V2:+24V	10.42A	8.33A	+/- 5%	1%

Note:

* DRL0602DN series are designated as DRL0602DNx-y where x can be U (U-Chassis), C (U-chassis with top vented cover), E (Enclosed Type with side built-in fan) or F (Enclosed Type with top built-in fan); y can be 0512, 0524, 0548, 1224.

• For models U chassis type which need external forced airflow min. 26.84 CFM to achieve maximum power.

• Type U, E & F with forced air cooling: Total combined power of V1 and V2 not to exceed 400W for DRL0602DNx-1224 and 320W for other models.

• Type U & C with convection cooling: Total combined power of V1 and V2 not to exceed 200W for CL0602DNx-1224 and 180W for other models.

* 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 and Output Connector (CN2):

Terminal block: Howder Part No. HD-121-7P or Mating Molex Part No. 09-91-1600(16 pins).

Molex: Mating JST VH series.

PCB labeling: L = Line; N = Neutral; G = Chassis Ground.

Output Pin Assignment: (See table in right).

Mounting Inserts: 6 Places M4X0.7. 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.

12VDC/300mA is available to drive an external fan. Mating: JST XHP-2 (2 pins 0.98 pitch)

Fan Driver Connector (FAN2):

or equivalent (CHYAO SHIUNN JS-2001-02).

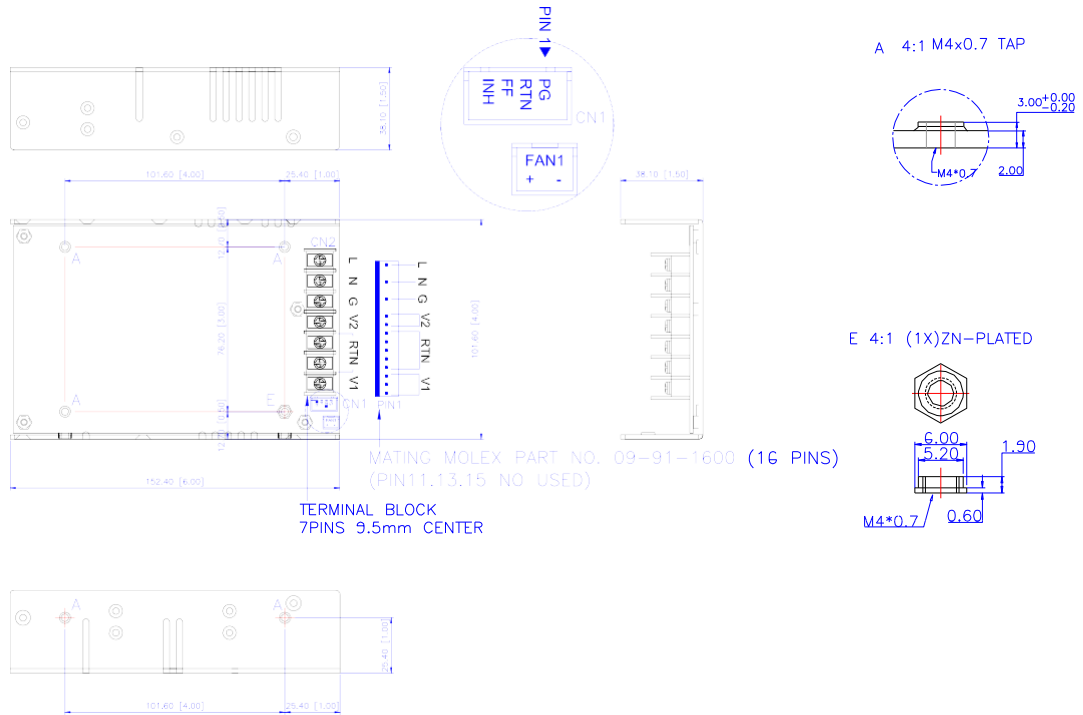
Howder	Molex
Pin 1: V1	Pins 1 ~ 3: V1
Pin 2 ~ 3: RTN	Pins 4 ~ 8: RTN
Pin 4: V2	Pins 9 ~ 10: V2
Pin 5: GND	Pin 12: GND
Pin 6: Neutral	Pin 14: Neutral
Pin 7: Line	Pin 16: Line



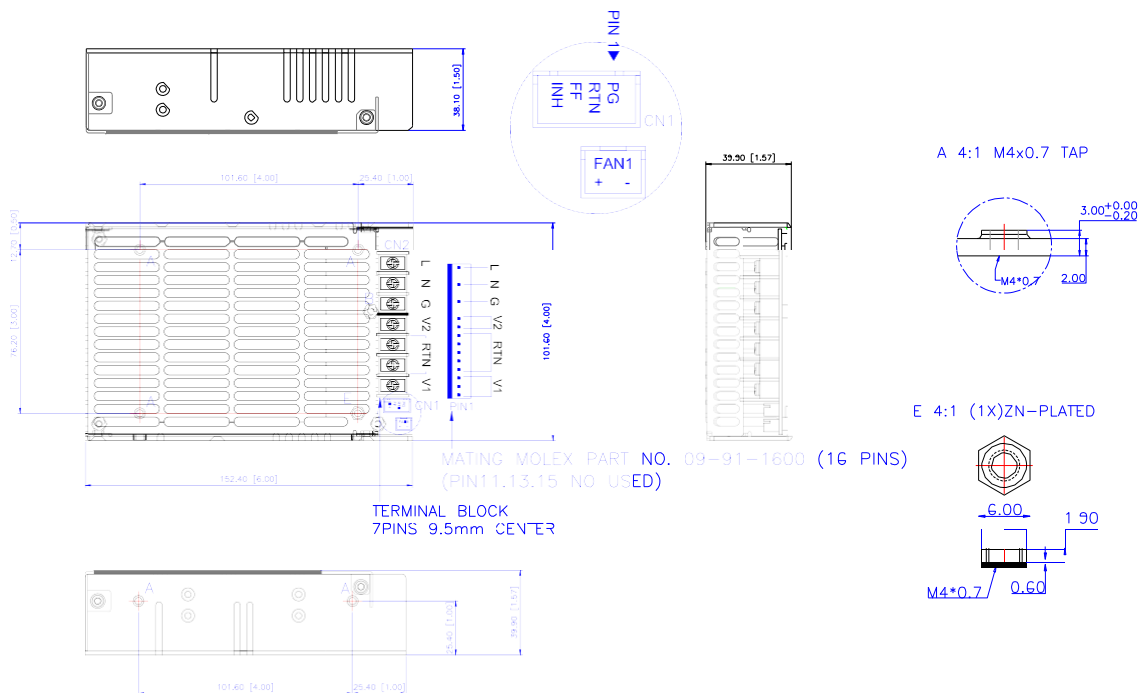
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DRL0602DNU Series (U-Chassis Type): 6(L) x 4(W) x 1.5(H) inches; Weight: 600g.



DRL0602DNC Series (U chassis with Top vented Cover): 6(L) x 4(W) x 1.57(H) inches; Weight: 650g.

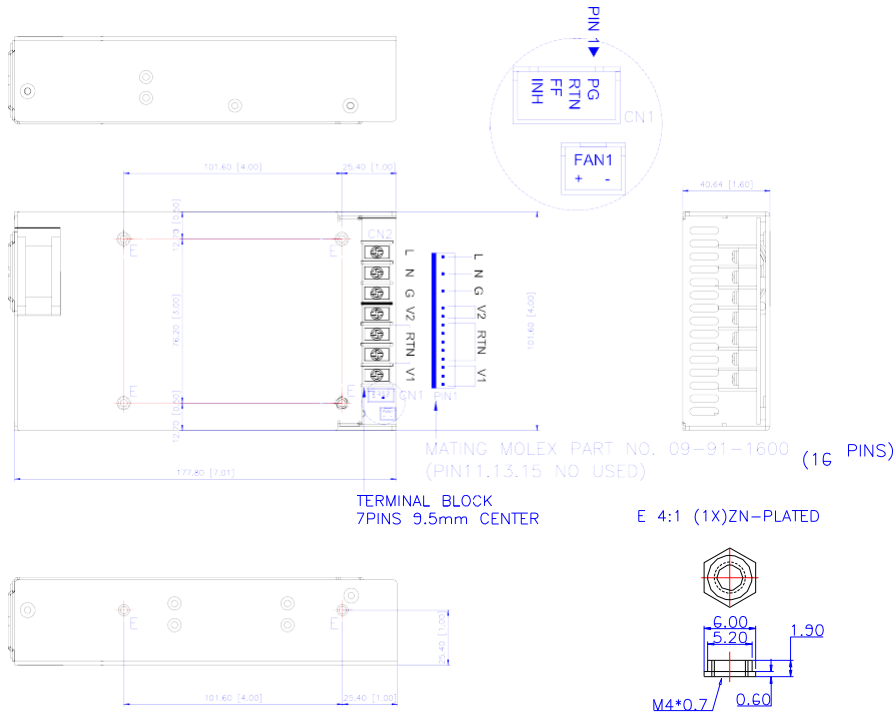




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DRL0602DNE Series (Enclosed with Side built-in Fan Type): 7(L) x 4(W) x 1.6(H) inches; Weight: 750g.



DRL0602DNF Series (Enclosed with Top built-in Fan Type): 6(L) x 4(W) x 2(H) inches; Weight: 800g.

