

# N2POWER DL150 AC-DC SERIES ULTRA SMALL, RUGGEDIZED POWER SUPPLIES

# HIGHLIGHTS

- Universal AC input / Full range
- Installed on DIN rail TS-35 / 7.5 or 15
- Built-in active PFC function, PF > 0.95
- 150 % peak load capability
- Protection: SCP, OCP, OVP
- Two selectable peak load modes
- Built-in DC OK Relay contact
- Built-in Remote ON/ OFF function
- 3 years warranty



# Mechanical Drawings:

Terminal Pin No. Assignment (TB1)

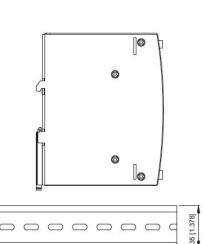
Pin NO.	Assignment	
1	FG	
2	AC/L	
3	AC/N	

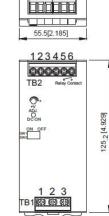
#### Terminal Pin No. Assignment (TB2)

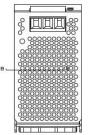
Pin NO.	Assignment	
1	DC+	
2	DC- INH+	
3		
4	INH-	
5,6	Relay Contact	

#### Switch No. Assignment

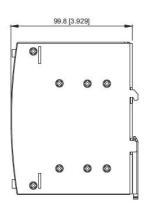
SW NO.	Assignment		
SW1	PEAK LOAD SETTING		
SW2	REMOTE ON/OFF SETTING		











Admissible DIN-RAIL: TS-35/7.5 OR TS-35/15



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Rev: 08-01-17

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MODEL	PART NUMBER	OUTPUT	VOLTAGE	ADJ. RANGE (VOLTS)	LOAD REGULATION	RATED / PEAK CURRENT (A)		RIPPLE & NOISE (P-P)	EFFICIENCY	MTBF (HRS.)
DL150-24		V1	24	-2 ~ +8%	±1%	6.25 / 9.45	150	240mV	87%	
DL150-48		V1	48	-2 ~ +8%	±1%	3.125 / 4.8	150	480mV	87%	

	Peak Power	225W (3sec.) Two selectable peak load mode	Note 6
Output	Voltage Tolerance	±1%	Note 3
Output	Setup, Rise Time	700ms, 30ms / 230VAC / 115VAC at full load	
	Hold Up Time (Typ.) > 16ms / 230VAC, > 16ms / 115VAC at full load		
	Voltage Range	88 ~ 264VAC, 124 ~ 373VDC	
Input	Frequency Range	47 ~ 63Hz	
	Power Factor (Typ.)	< 0.9 / 230VAC, < 0.98 / 115VAC at full load	
	AC Current (Typ.)	2.6A / 115VAC, 1.3A / 230VAC	
	Inrush Current (Typ.)	33A / 115VAC, 65A / 230VAC	
	Leakage Current	< 1mA / 240VAC	
Protection	Over Current	Hiccup mode: when the rated output power is within 105 ~ 150% for more than 3secs. Constant current limit: > 150% rated power / short circuit Auto-recovery: If O/P drop to 40% of the rated output voltage, PSU will shut down and auto- recover 5times (If fault condition remains after 5times recovery, PSU will shut down. User must re-power on to recover)	
	Over Voltage	DL150-24: 29 ~ 33V / DL150-48: 56 ~ 65V (Protection type: latch-off mode)	
	Over Temperature	95 ±5°C (TSW: detect on heatsink of power diode) Protection type: Shut down o/p voltage, recovers automatically after temperature goes down	
	Working Temp.	-10 ~ +70°C (Refer to de-rating curve)	Note 5
	Working Humidity	20 ~ 95% RH non-condensing	
E au dina a an a a t	Storage Temp. & Humidity	-40 ~ +85°C, 10 ~ 95% RH	
Environment	T emp. Coefficient	±0.03% / °C (0 ~ 50°C)	
	Vibration	10 ~ 500Hz, 2G 10 min. / 1cycle, period for 60 min. each along X, Y, Z axes Mounting: Certified IEC 60068-2-6	
	Safety Standards	Certified UL 508; EN 60950-1	
	Withstand Voltage	I/P-O/P: 4242VDC, I/P-FG: 2121VDC, O/P-FG: 707VDC, O/P-DC OK: 707VDC	
	Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: >100M Ohms / 500VDC / 25°C / 70% RH	
Safety & EMC	EMI Conduction & Radiation	Certified EN55022 (CISPR22)	
	Harmonic Current	Certified EN 61000-3-2, -3-3, -6-3	
	EMS Immunity	Certified IEC 61000-4-2, 3, 4, 5, 6, 8, 11; EN 55024; EN 61000-6-1; EN 61204-3; Meet SEMI F47 62.73K	Note 4
Physical	DC OK Relay Contact Ratings (Max.)	60VDC / 0.3A, 30VDC / 1A, 30VAC / 0.5A resistive load	
Characteristics	Dimension (W x H x D)	55.5 x 125.2 x 99.8 mm / 2.2 x 4.9 x 3.9 inch	
	Packing	0.9kg each; 12pcs / 11.8kg per box / 1.32 CU FT	

#### Notes:

1. All parameters NOT specifically mentioned are measured at 230VAC input, rated load and 25°C ambient temperature.

2. Ripple & noise are measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.

3. Tolerance includes setup time tolerance, line regulation and load regulation

4. The power supply is considered a component which will be installed into a complete equipment unit. The final unit must be re-tested to insure that it still meets EMC directives.

5. Installation clearance: 40mm from top, 20mm from bottom, 5mm from the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.

6. 3 seconds or 20% duty cycle Max. The averge output power should not exceed the rate power.

7. De-rating may apply in low input voltage. Please check the de-rating curve for more details.

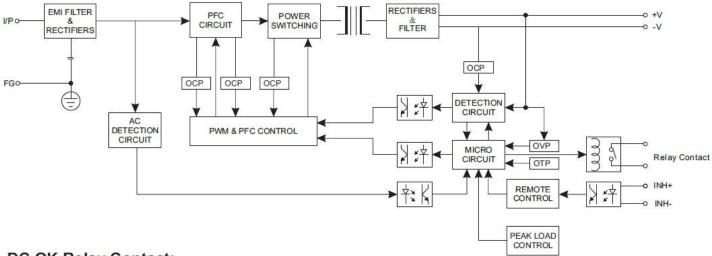




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## **Block Diagram:**



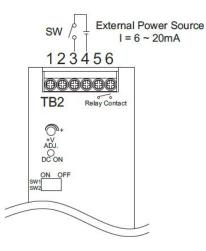
## DC OK Relay Contact:

Contact Close	When the output voltage reaches the adjusted output voltage.
Contact Open	When the output voltage drop below 45% rated output voltage.
Contact Ratings(max.)	30V/1A resistive load

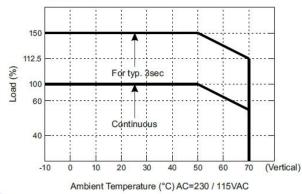
#### Remote ON / OFF:

The PSU can be turned ON/OFF by using the "Remote Control" function.

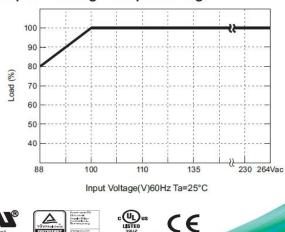
SW2	INH+(3 PIN)/ INH-(4 PIN)	Output Status	
OFF	SW ON (>2.5V)	ENABLE	-
OFF	SW OFF (<0.8V)	DISABLE	
ON	SW ON (>2.5V)	DISABLE	
ON	SW OFF (<0.8V)	ENABLE	(Default Setting)



#### **De-rating Curve:**



#### Output derating VS input voltage:



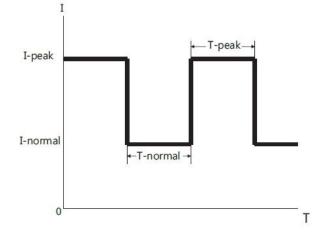


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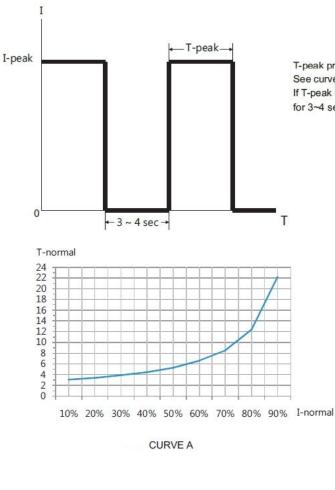


## Peak Load SW1 ON (Mode1) Default setting:

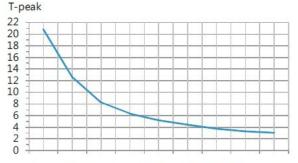


T-peak presents while the unit is working within 110%~150% Rating output power. See curve " B " for the variation in T-peak between output current and holdup time. If T-peak is more than the time setting in curve "B", the output current will drop to the constant current limit (I-normal) that is 105% rating power, meanwhile, I- normal and T-normal will be presenting. See curve "A" for the timing back to I-Peak of T-normal and this Mode can use for easy 2-stage battery charger.

# Peak Load SW1 OFF (Mode2):



T-peak presents while the unit is working within 110%~150% Rating output power. See curve " B " for the variation in T-peak between output current and holdup time. If T-peak is more than the time setting in curve "B", the output voltage will be shut down for 3~4 sec, then auto-recovery.



110% 115% 120% 125% 130% 135% 140% 145% 150% I-peak

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CURVE B



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