

N2POWER DL60 AC-DC SERIES ULTRA SMALL, RUGGEDIZED POWER SUPPLIES

HIGHLIGHTS

- Universal AC input / Full range .
- Installed on DIN rail TS-35 / 7.5 or 15 .
- Brown-out protection •
- Protection: SCP, OCP, OVP .
- High operation temperature up to 70°C •
- True DC OK signal output •
- Withstand 2G vibration test
- UL 508 (Industrial control equipment) listed
- UL 1310 Class 2 Power unit / LPS pass •
- 3 years warranty

Mechanical Drawings:



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Stcharhan Lagain Diga Produktiona

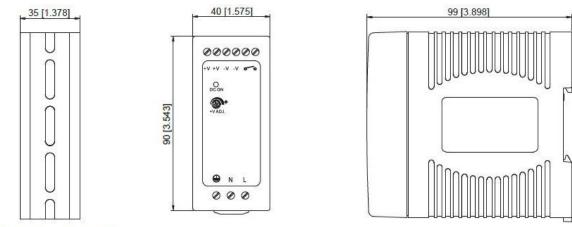
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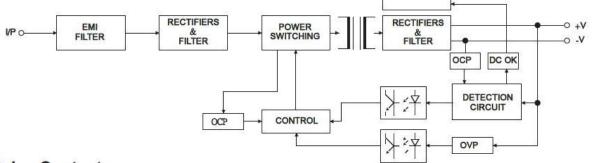
Unit : mm / inch

DC OK



install DIN rail TS-35 / 7.5 or TS-35 / 15

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 90% rated output voltage
Contact Ratings (max.)	30V / 1A resistive load



QUALSTAR CORPORATION www.n2power.com Tel: 805-583-7744

NASDAQ: QBAK

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MODEL	PART NUMBER	OUTPUT	VOLTAGE	ADJ. RANGE (VOLTS)	LOAD REGULATION	MAXIMUM CURRENT (A)	RATED POWER (W)	RIPPLE & NOISE (P-P)	EFFICIENCY	MTBF (HRS.)
DL60-12	400303-01-2	V1	12	10.8 ~ 13.2	±1%	5	60	100mV	86%	944,600
DL60-15	400303-02-0	V1	15	13.5 ~ 16.5	±1%	4	60	100mV	87%	944,600
DL60-24	400303-03-8	V1	24	21.6 ~ 26.4	±1%	2.5	60	120mV	87%	944,600
DL60-48	400303-04-6	V1	48	43.2 ~ 52.8	±1%	1.25	60	180mV	88%	944,600

	Voltage Tolerance	±1%	Note 3
Output	Setup, Rise Time	< 800ms, < 50ms / 230VAC at full load	
	Hold Up Time (Typ.)	> 32ms / 230VAC, > 16ms / 115VAC at full load	
Input	Voltage Range	88 ~ 264VAC, 124 ~ 370VDC	Note 4
	Frequency Range	47 ~ 63Hz	
	AC Current (Typ.)	1.3 A / 115VAC, 0.6A / 230VAC	
	Inrush Current (Typ.)	Cold start 30A / 115VAC, 60A / 230VAC	
	Leakage Current	< 1mA / 230VAC	
Protection	Over Current	> 102% rated output power (Protection type: constant current limit, recovers automatically	
	Over Current	after fault condition is removed)	
	Over Voltage	115 ~ 150% rated output voltage (Protection type: latch-off mode)	
Environment	Working Temp.	-20 ~ +70°C (Refer to de-rating curve)	
	Working Humidity	20 ~ 90% RH non-condensing	
	Storage Temp. & Humidity	-40 ~ +85°C, 10 ~ 95% RH	
	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	
	Safety Standards	Certified UL 508; EN 60950-1; UL 1310 Class 2 Power Supply	
	Withstand Voltage	I/P-O/P: 4242VDC, I/P-FG: 2121VDC 1minute	
Sofaty & EMC	Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC	
Safety & EMC	EMI Conduction & Radiation	Certified EN 55022; EN 61000-6-3	
	Harmonic Current	Certified EN 61000-3-2; EN 61000-3-3	
	EMS Immunity	Certified EN 61204-3; EN 55024; EN 61000-6-1; IEC 61000-4-2, 3, 4, 5, 6, 8, 11	Note 5
Physical Characteristics	DC OK signal	Relay contact (24VDC / 1A, 120VAC / 1A)	
	Connection	I/P: 3 poles, O/P: 6 poles screw terminal	
	Cooling	Air convection	
	Dimension (W x H x D)	40 x 90 x 99 mm / 1.6 x 3.5 x 3.9 inch	
	Packing	0.29kg each; 27pcs / 8.83kg per box / 0.6 CU FT	

Notes:

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

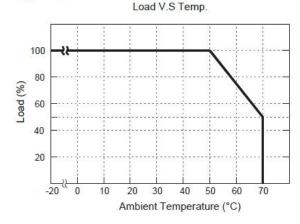
2. Ripple & noise are measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.

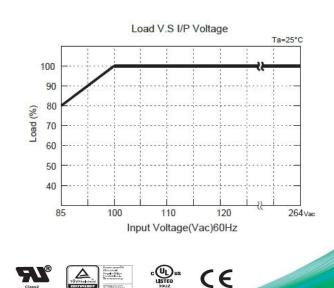
3. Tolerance includes setup time tolerance, line regulation and load regulation

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

5. 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.

De-rating Curve:







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