

## 60W Single Output Switching Power Supply



### ■ Features :

- Universal AC input/Full range
- Protections:Short circuit/Over load/Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at 50KHz



### SPECIFICATION

MODEL		NL-60-5	NL-60-12	NL-60-15	NL-60-24
OUTPUT	DC VOLTAGE	5V	12V	15V	24V
	RATED CURRENT	12A	5A	4A	2.5A
	CURRENT RANGE	0 ~ 12A	0 ~ 5A	0 ~ 4A	0 ~ 2.5A
	RATED POWER	60W	60W	60W	60W
	RIPPLE & NOISE (max.) Note.2	120mVp-p	120mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 26.4V
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±0.5%	±0.5%	±0.5%
SETUP, RISE, HOLD TIME	300ms, 50ms, 80ms / 230VAC      800ms, 50ms, 10ms / 115VAC at full load				
INPUT	VOLTAGE RANGE	85 ~ 264VAC    120 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY(Typ.)	73%	76%	77%	79%
	AC CURRENT	2A/115VAC    1A/230VAC			
	INRUSH CURRENT(max.)	COLD START 30A/115VAC    60A/230VAC			
	LEAKAGE CURRENT	<3.5mA / 240VAC			
PROTECTION	OVER LOAD	105 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed.			
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes			
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL1012, UL1950, TUV EN60950 Approved			
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC    I/P-FG:1.5KVAC    O/P-FG:0.5KVAC			
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC			
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B			
OTHERS	HARMONIC CURRENT	Compliance to EN61000-3-2,-3			
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A			
	MTBF	316.2K hrs min.    MIL-HDBK-217F (25°C)			
NOTE	DIMENSION	160*40*33mm (L*W*H)			
	PACKING	0.19Kg; 50pcs/10.5Kg/0.7CUFT			
<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.                  2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.                  3. Tolerance : includes set up tolerance, line regulation and load regulation.                  4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.</p>					