

PRODUCT DATASHEET

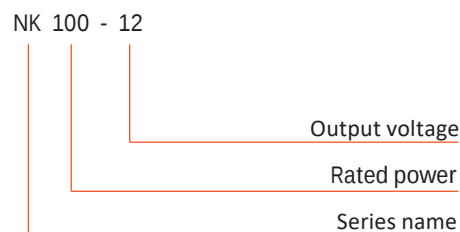
- Product characteristics
- Wide voltage input (90-264VAC)
- Protection:OCP/OVP/Short circuit protection
- Operating temperature range -30℃ to +60℃
- 3kV isolation voltage
- 100% high temperature aging and testing
- 3 years quality assurance



MODEL LIST

Model	Input voltage	Rated power	Output voltage	Voltage adjustable range	Rated current	Ripple & Noise	efficiency
NK100-12	90-264Vac	100W	12V	10.2-13.8V	8.33A	120mV	85%
NK100-15	90-264Vac	100W	15V	13.5-18V	6.66A	120mV	85%
NK100-24	90-264Vac	100W	24V	21.6-28.8V	4.16A	150mV	86%
NK100-36	90-264Vac	100W	36V	32.4-39.6V	2.77A	200mV	86%
NK100-48	90-264Vac	100W	48V	43.2-52.8V	2.08A	200mV	86%

NAMING CONVENTION

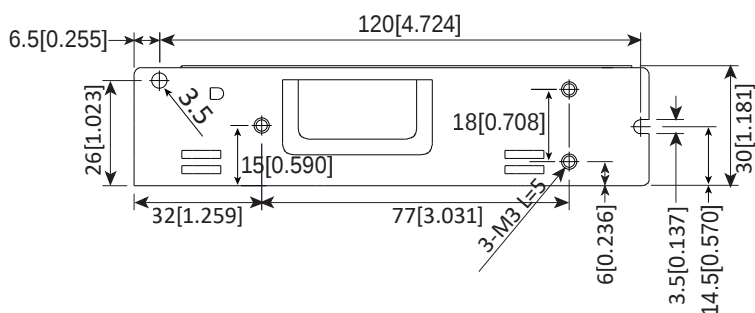


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TECHNICAL PARAMETER

Output characteristic	Output voltage accuracy	±2.0%
	Linear adjustment rate	±0.5%
	Load adjustment rate	±1.5%
	Start, rise time (typical)	≤2500ms, ≤50ms/230VAC Full Load
	Holding time (typical value)	≥20ms/230VAC Full Load
Input characteristic	Input voltage range	90-264VAC
	Input frequency	47-63Hz
	Input current (typical)	1.9A/115VAC 1.2A/230VAC
	Impulse current (typical)	Cold start 90A/230VAC
	Leakage current (typical)	<1mA/240VAC
Protective characteristic	Overload protection	110-145% of rated power, hiccup mode, can automatically return to normal work after abnormal load removal
	Overvoltage protection	Dual voltage loop voltage limiting, when the main voltage loop failure causes the output voltage to rise, the secondary voltage loop (overvoltage protection loop) works in real time, limiting the output voltage to a safe value range
		Model NK100-12 NK100-15 NK100-24 NK100-36 NK100-48
		Guard point 13.5-16V 16.8-19.5V 27-32V 40-48V 53-60V
	Short circuit protection	Power supply protection after short circuit in the output end. After eliminating short circuit, it can automatically return to normal operation
Working environment	Operating temperature	-30℃ to +60℃ (refer to derating curve)
	Working humidity	20-90%RH non-condensing
	Storage temperature	-40℃ to +80℃, 10-95% RH
	Temperature drift coefficient	0.03%/(0℃-50℃)
	Vibration coefficient	10-500Hz, 2G10 minutes/cycle, X, Y, Z axis 60 minutes each
Safety and electromagnetic compatibility	Safety standard	UL1012, EN62368, UL62368
	Insulation voltage	I/P-O/P: 3.0kVAC I/P-FG: 1.5kVAC O/P-FG: 0.5kVAC
	Insulation resistance	I/P-O/P,I/P-FG,O/P-FG: >100M Ohms/500VDC 25℃ 70% RH
	Conduction & Radiation	EN55011, EN55022 (CISPR22)
	ESD	IEC/EN 61000-4-2 level 4 8kV/15kV
	Radiated Susceptibility	IEC/EN 61000-4-3
	EFT	IEC/EN 61000-4-4 level 4 4kV
	SURGE	IEC/EN 61000-4-5 level 4 2kV
other	MTBF	200K hrs min. MIL-HDBK-217F(25)
	Volume	129*97*30mm (L*W*H)
	Package	40 PCS/box 15KG/ box
Remark	The above data are measured at TA=25℃, humidity <75%, nominal input voltage 230VAC and rated output load unless otherwise specified.	
	Ripple and noise measurement method: a 300mm twisted pair wire is used, and the terminal should be connected in parallel with a 0.1uF high-frequency ceramic capacitor and a 47uF electrolytic capacitor, and measured at 20Mhz bandwidth.	
	The power supply is regarded as a component in the system and needs to be verified for electromagnetic compatibility with the terminal device.	

OVERALL DIMENSION

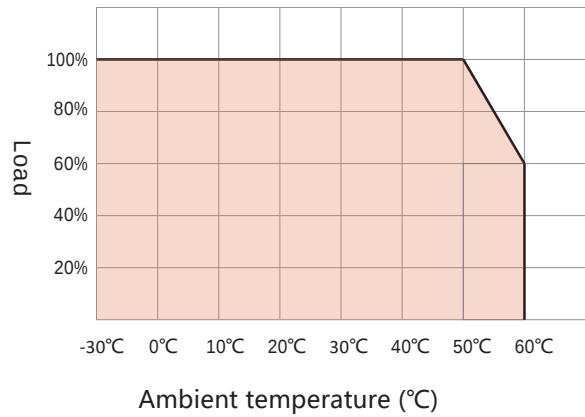
Unit: mm[inh]

The diagram illustrates a power supply system with the following components and connections:

- AC Input:** Two lines, $AC(L)$ and $AC(N)$, enter the **Electromagnetic filtering** block.
- Grounding:** A ground symbol is connected to the **Electromagnetic filtering** block. A separate **FG** (Frame Ground) line is also shown.
- Power Processing:** The signal flows from **Electromagnetic filtering** to **Rectifier/filter**, then to the **Switching circuit**, and finally through another **Rectifier/filter** block.
- Output:** The final output is taken from the second **Rectifier/filter** block, with positive (+) and negative (-) terminals.
- Control and Protection:**
 - The **Switching circuit** is controlled by the **Control circuit**.
 - The **Control circuit** receives input from the **Overload protection circuit**.
 - Feedback is provided by two detection blocks: **Detection circuit** and **Overvoltage protection circuit**, which receive signals from the output stage and feed back into the **Control circuit**.

DERATING CURVE

Temperature derating curve



Input voltage reduction curve

