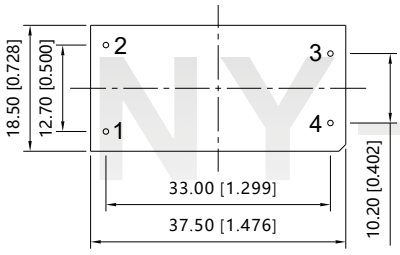
3W AC/DC SMPS

DESCRIPTION

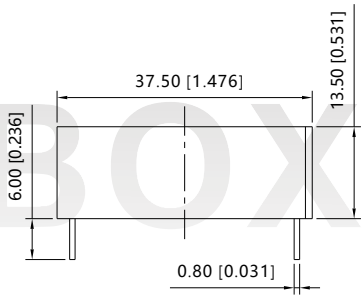
- ★ Wide input AC85~264V & DC100~375V
- ★ Output short circuit, over-current protection
- ★ Compact size, high power density
- ★ I/O isolation test voltage 3k VAC
- ★ Low ripple & noise
- ★ RoHS Compliant
- ★ Industrial grade, high reliability

H14NG03-Axx series is one of Nyboxing's highly efficient green power AC-DC Converter series. They feature ultra-wide wide input range accepting either AC or DC voltage, high efficiency, low power consumption and Class II reinforced insulation.

Dimensions



Bottom view



Side view

PIN	Function	
	AC IN	DC IN
1	N	DC
2	L	DC
3	+Vo	+Vo
4	-Vo	-Vo

Note:
Unit:mm[inch]
Pin length: 6.0[0.236]
Pin diameter tolerances:±0.20[±0.008]
General tolerances:±0.50[±0.020]

Selection Guide

Part No.	Output Power	Nominal Output Voltage and Current	Efficiency at 230VAC (%) Typ.	Capacitive Load (μF) Max.	Dimensions (L×W×H)
H14NG03-A03	3W	3.3V/800mA	65%	1000μF	37.5×18.5×13.5mm
H14NG03-A05		5V/600mA	68%	680μF	
H14NG03-A09		9V/330mA	70%	470μF	
H14NG03-A12		12V/250mA	71%	330μF	
H14NG03-A15		15V/200mA	73%	250μF	
H14NG03-A24		24V/125mA	75%	100μF	

Input Specifications

Item	Operating Conditions	Min	Typ	Max
Input Voltage Range	AC input	85VAC	--	264VAC
	DC input	100VDC	--	375VDC

Input Frequency		47Hz	--	63Hz
Stand-by Power Consumption		--	0.2W	--
Input Current	115VAC	--	80mA	--
	230VAC	--	40mA	--

Output Specifications

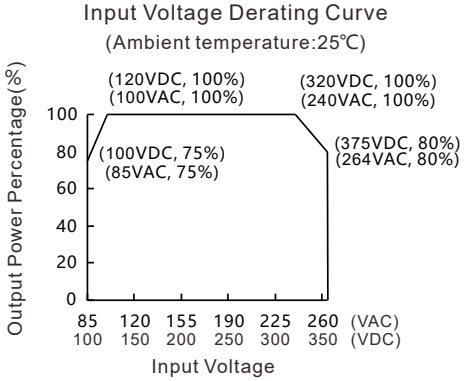
Item	Operating Conditions		Min	Typ	Max
Output Voltage Accuracy	3.3V Output		--	±5%	--
	Other Output		--	±3%	--
Line Regulation	Full load		--	±2%	--
Load Regulation	10%~100% Load		--	±3%	--
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	3.3V,5V Output	--	80mV	--
		9V,12V Output	--	100mV	--
		15V,24V Output	--	150mV	--
Short Circuit Protection	Hiccup, continuous, self-recovery				
Over-current Protection	≥110%Io				
Minimum Load			0	--	--
Start delay time			--	500ms	--
Hold-up Time			--	10ms	--

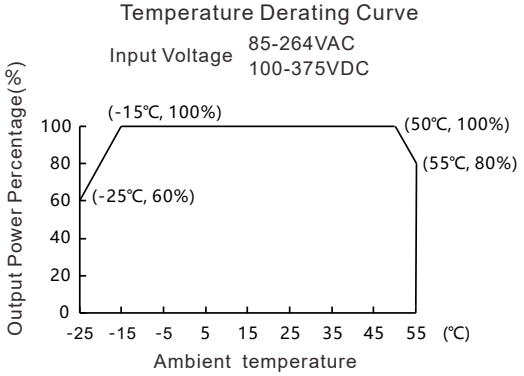
Note: * The “parallel cable” method is used for Ripple and noise test, please refer to AC-DC Converter Application Notes for specific information.

General Specifications

Item	Operating Conditions	Min	Typ	Max
Isolation	Input-Output, Test for 1min	--	3000VAC	--
Operating Temperature		-25℃	--	+55℃
Storage Temperature		-40℃		+105℃
Storage Humidity		--	--	95%RH
Working frequency		--	65KHz	--
MTBF	MIL-HDBK-217F, 25°C		215,000h	
Casing Material	Black flame-retardant and heat-resistant plastic (UL94-V0)			

Product Characteristic Curve





Design Reference

1 Typical application

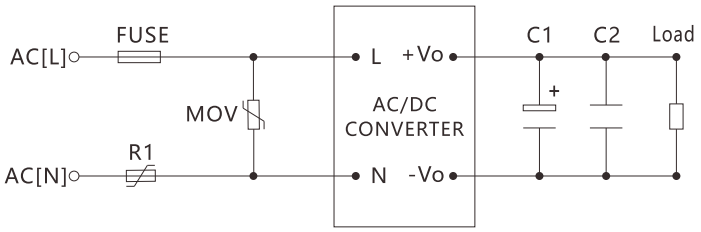


Fig. 1: Typical circuit diagram

Note

We recommend using an electrolytic capacitor with high frequency, and low ESR rating for C1 (refer to manufactur-e's datasheet). Choose a Capacitor voltage rating with at least 20% margin, in other words not exceeding 80%. C2 is a ceramic capacitor used for filtering high-frequency noise.

2 EMC compliance recommended circuit

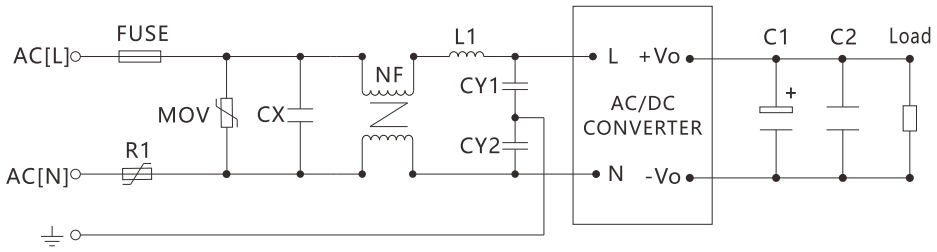


Fig 2: EMC application circuit with higher requirements

3 Input part: parameter recommendation

Component	Recommended value
FUSE	10Ω/1W Safety Resistance
MOV	471KD10
CX	0.1μF/275VAC
L1	470μH
NF	10mH-30mH
CY1,CY2,CY3	1000pF/400V

4 Output part: parameter recommendation

Output Voltage	3.3V	5V	9V	12V	15V	24V
C1	220μF/10V		100μF/25V			33μF/35V
C2	1μF/50V					

Safety precautions

1.If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;

2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75% with nominal input voltage and rated output load;

3. All index testing methods in this datasheet are based on our Company's corporate standards;

4. We can provide product customization service, please contact our technicians directly for specific information;

5. For more product information, please visit our official website (www.gzny-boxing.com) or email us (sales@gzny-boxing.com) .