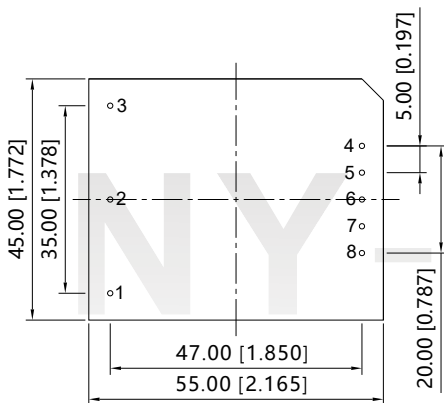
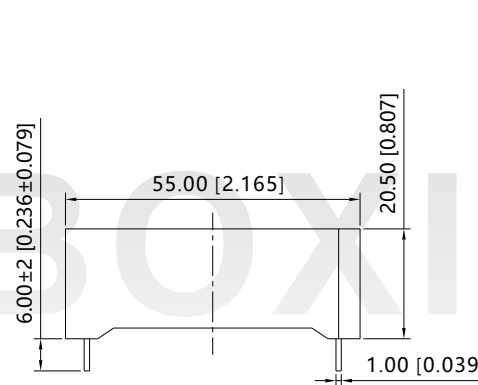


10W AC/DC SMPS
DESCRIPTION


- ★ 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
- ★ Single output, double output, positive and negative output

NR10-A,B,Cxx 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

Front view

Side view

PIN	Function		
	NR10-A	NR10-B	NR10-C
1	FG	FG	FG
2	N	N	N
3	L	L	L
4	+Vo	+Vo2	+Vo
5	NP	-Vo2	NP
6	NP	NP	COM
7	NP	+Vo1	NP
8	-Vo	-Vo1	-Vo

Note:
 Unit: mm[inch]
 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)
		Vo1/Io1	Vo2/Io2			
NR10-A03	6.6W	3.3V/2000mA	--	74%	2000μF	55.0×45.0×20.5mm
NR10-A05		5V/2000mA	--	75%	1000μF	
NR10-A09		9V/1100mA	--	75%	820μF	
NR10-A12	10W	12V/830mA	--	75%	680μF	
NR10-A15		15V/670mA	--	76%	560μF	
NR10-A24		24V/420mA	--	80%	330μF	

NR10-B0505	10W	5V/1800mA	5V/200mA	70%	1500μF	55.0×45.0×20.5mm
NR10-B0512		5V/1500mA	12V/200mA	72%	1000μF	
NR10-B0515		5V/1400mA	15V/200mA	75%	820μF	
NR10-B0524		5V/1000mA	24V/200mA	77%	680μF	
NR10-C05	10W	+5V/1000mA	-5V/1000mA	73%	680μF	55.0×45.0×20.5mm
NR10-C12		+12V/420mA	-12V/420mA	75%	330μF	
NR10-C15		+15V/330mA	-15V/330mA	77%	220μF	
NR10-C24		+24V/210mA	-24V/210mA	80%	220μF	

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	--	230mA	--
	230VAC	--	115mA	--

Output Specifications

Item	Operating Conditions	Min	Typ	Max	
Output Voltage	3.3V Output	--	±3%	--	
Accuracy	Other Output	--	±1%	--	
Line Regulation	Full load	Primary output	--	±1%	--
		Secondary output	--	±3%	--
Load Regulation	10%~100% Load	Single output	--	±3%	--
		Dual output (balanced load) ^①	--	±10%	--
Ripple & Noise ^②	20MHz bandwidth (peak-to-peak value)	--	100mV	--	
Short Circuit Protection		Hiccup, continuous, self-recovery			
Over-current Protection		≥110%Io			
Minimum Load		0	--	--	
Start delay time		--	1s	--	
Hold-up Time		--	20ms	--	

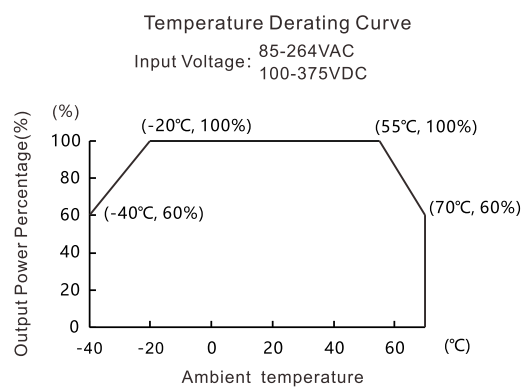
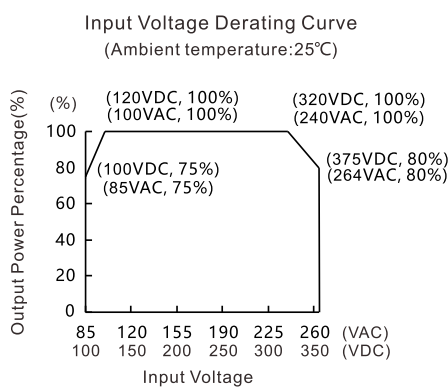
Note: ^①The balanced load is that the output load of the primary output and the secondary output changes in the same proportion.

^②The "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	Electric Strength Test for 1min	--	3000VAC	--
Operating Temperature		-40°C	--	+70°C
Storage Temperature		-40°C	--	+105°C
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

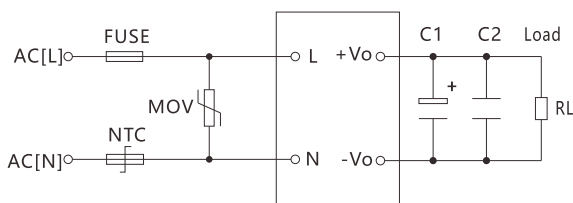


Fig. 1: NR10-Axx typical circuit diagram

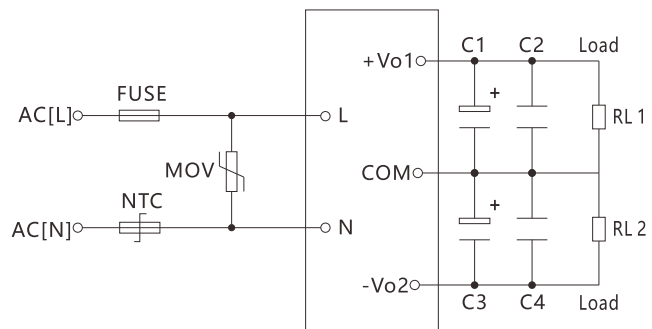


Fig. 2: NR10-Bxx typical circuit diagram

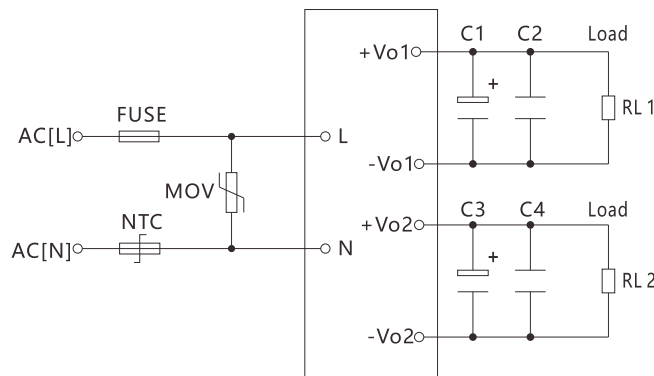


Fig. 3: NR10-Cxx typical circuit diagram

2 EMC compliance recommended circuit

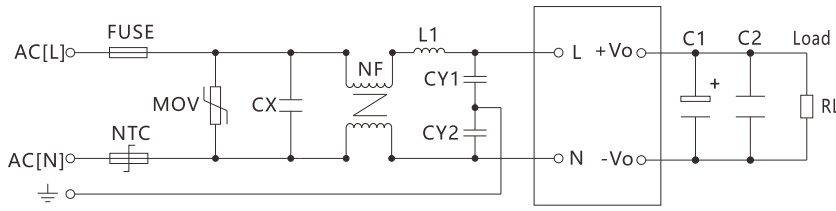


Fig 4: NR10-Axx EMC application circuit with higher requirements

Note

We recommend using an electrolytic capacitor with high frequency, and low ESR rating for C1 (refer to manufacturer'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.

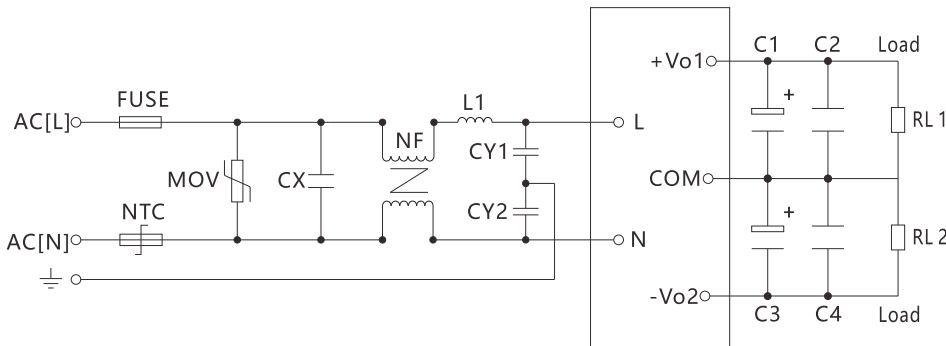


Fig 5: NR10-Bxx EMC application circuit with higher requirements

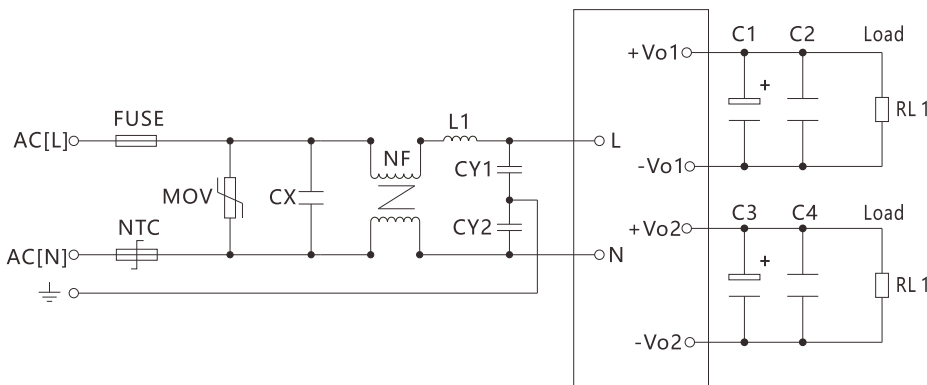


Fig 6: NR10-Cxx EMC application circuit with higher requirements

3 Input part: parameter recommendation

Component	Recommended value
FUSE	1.0A/250VAC,slow-blow required
NTC	5D-9
MOV	471KD10
CX	0.1 μ F/275VAC
L1	330 μ H
NF	10mH-30mH
CY1,CY2	1000pF/250V

4 Output part: parameter recommendation

Output Voltage	3.3V	5V	9V	12V	15V	24V
C1,C3	330μF/10V		220μF/25V			68μF/35V
C2,C4	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°C, 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) .