



# 100W DC-DC Non-Isolated Regulated Converter

# NID100 series



### ■ Features :

- Economical open frame design
- Wide input range
- High efficiency up to 97%
- Remote ON / OFF control
- Compact size 2.0"x1.082"x 0.472"(SIP package)
- Protections: Short circuit / Overload / Over voltage
- -30~+85°C wide working temperature
- Cooling by free air convection
- Comply to BS EN/EN55032 ClassA without additional components
- Trimming output (optional)
- 3 years warranty

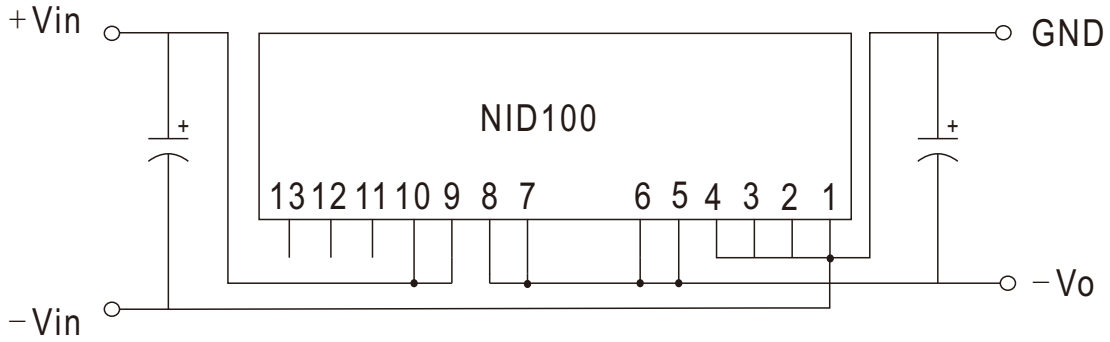


### SPECIFICATION

ORDER NO.	NID100-5		NID100-12		NID100-15		NID100-24			
OUTPUT	DC VOLTAGE	5V		12V		15V		24V		
	RATED CURRENT	11A		7.5A		6.5A		4.2A		
	RATED POWER	55W		90W		97.5W		100.8W		
	RIPPLE & NOISE (max.) Note.2	100mVp-p		120mVp-p		150mVp-p		200mVp-p		
	LINE REGULATION Note.3	±0.5%		±0.5%		±0.5%		±0.5%		
	LOAD REGULATION Note.4	±0.5%		±0.5%		±0.5%		±0.5%		
	VOLTAGE TOLERANCE	±2.0%		±2.0%		±2.0%		±2.0%		
	SWITCHING FREQUENCY (Typ.)	200KHz								
INPUT	EXTERNAL CAPACITANCE LOAD (max.)	100uF/16V low ESR		68uF/25V low ESR		47uF/50V low ESR		47uF/50V low ESR		
	VOLTAGE RANGE	10.5 ~ 53VDC		20 ~ 53VDC		20 ~ 53VDC		30 ~ 53VDC		
	NORMAL VOLTAGE	24VDC (or 48VDC)		24VDC (or 48VDC)		24VDC (or 48VDC)		48VDC		
	EFFICIENCY (Typ.)	24Vin	93% (12/24VDC)		96%		97%		-----	
		48Vin	92%		95%		95%		96%	
	DC CURRENT	Full load	5400mA/12VDC		4500mA/24VDC		4600mA/24VDC		2300mA/48VDC	
No load		20mA		30mA		30mA		50mA		
PROTECTION	Fuse recommended (8A)									
PROTECTION	OVERLOAD (Typ.)	120 ~ 300% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	6.4 ~ 7.5V		15.6~ 18V		17.5~ 21V		28~ 33V		
	SHORT CIRCUIT	All output equipped with short circuit Protection type : Hiccup mode, recovers automatically after fault condition is removed								
FUNCTION	REMOTE CONTROL	Power on : 1.2VDC < R.C ~ com < 12VDC or open circuit ; power off : R.C ~ com < 0.4VDC or short circuit (PIN5,6,7,8 & PIN13)								
ENVIRONMENT	SAFETY STANDARDS	EAC TP TC 004 approved								
	WORKING TEMP.	-30 ~ +85°C (Refer to "Derating Curve")								
	WORKING HUMIDITY	20% ~ 85% RH non-condensing								
	STORAGE TEMP.	-30 ~ +105°C								
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°C)								
	VIBRATION	10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARD	BS EN/EN62368-1(LVD)								
	EMC EMISSION	Parameter	Standard		Test Level / Note					
		Conducted	BS EN/EN55032		Class A without external components, Class B with external components					
	Radiated	BS EN/EN55032		Class A without external components, Class B with external components						
	EMC IMMUNITY	Parameter	Standard		Test Level / Note					
		Radiated	BS EN/EN61000-4-3		Level 2, 3V/m ; criteria A					
		EFT / Burst	BS EN/EN61000-4-4		Level 2, 1KV ; criteria A					
		Surge	BS EN/EN61000-4-5		Level 2, 1KV/Line-Line, criteria A					
Conducted		BS EN/EN61000-4-6		Level 2, 3V ; criteria A						
OTHERS	DIMENSION	50.8*27.5*12mm or 2.0**1.082**0.472" inch (L*W*H)								
	WEIGHT	35g;280psc/10.8Kg/0.94CUFT								
NOTE	1.All parameters are specified at normal input, rated load, 25°C 70% RH Ambient. 2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor. 3.Line regulation is measured from low line to high line at rated load. 4.Load regulation is measured from 10% to 100% rated load. ※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>									

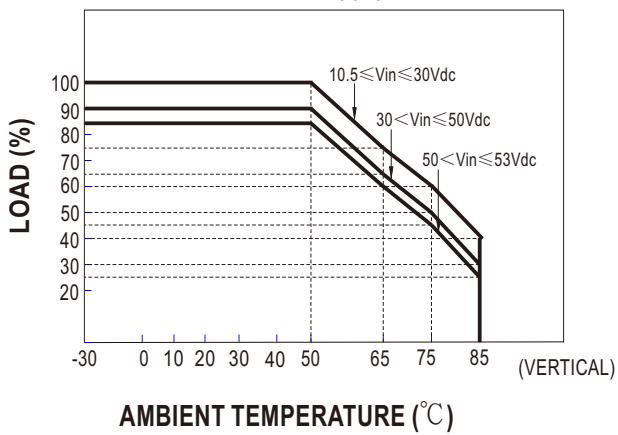
■ **Connection diagram to obtain negative output voltage**

Note: input voltage must be  $< 30\text{VDC}$ .

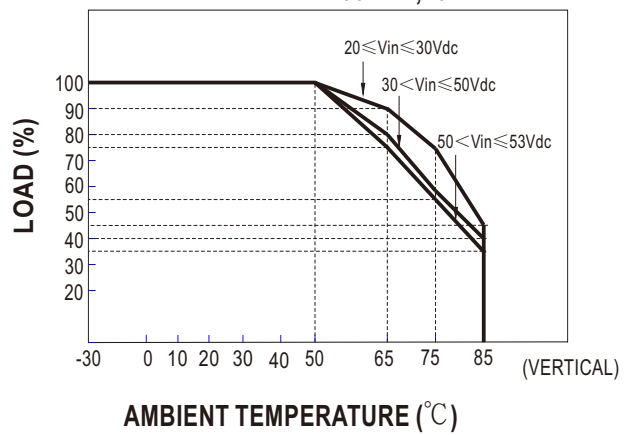


■ **Derating Curve**

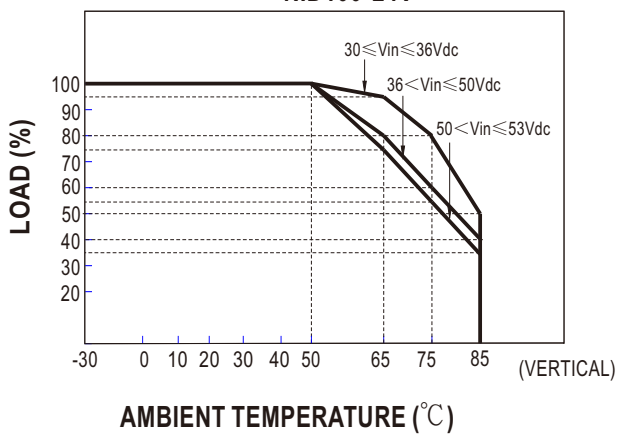
**NID100-5V**



**NID100-12V,15V**

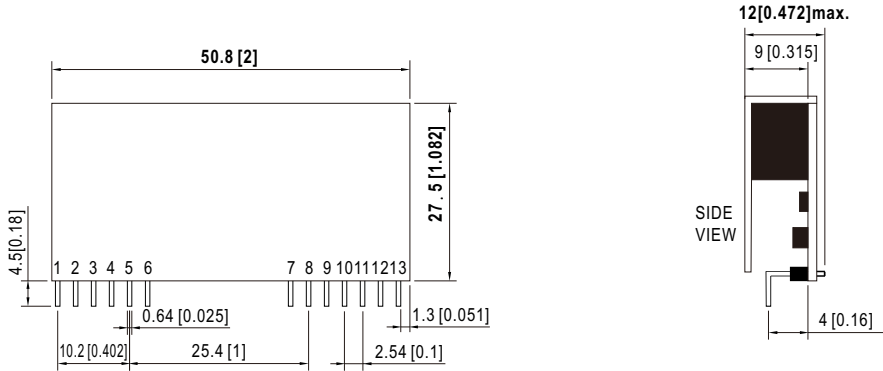


**NID100-24V**



**Mechanical Specification**

Unit:mm(inch)

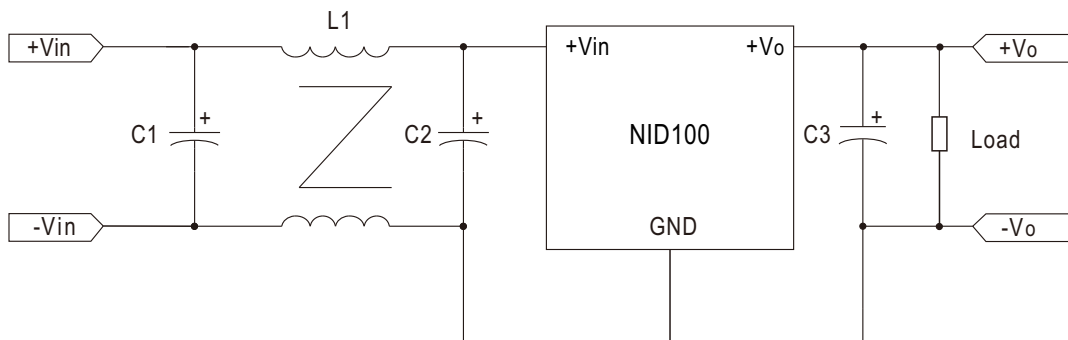


**Pin Configuration**

Pin No.	Pin_Out
1,2,3,4	+Vout
5,6,7,8	Com
9,10	+Vin
11	N.C.
12	Trim(optional)
13	R.C.

**EMC Suggestion Circuit**

※Comply to EN55032 Class A without additional componenets ,required external componenets to meet Class B emisson are as below:



C1/C2	L1	C3
120 $\mu$ F/63V	15 $\mu$ H(NiZn)	22 $\mu$ F/35V