

**NNS -15 Instruction Manual**

Dwg. No.	IA500-04-01K
----------	--------------

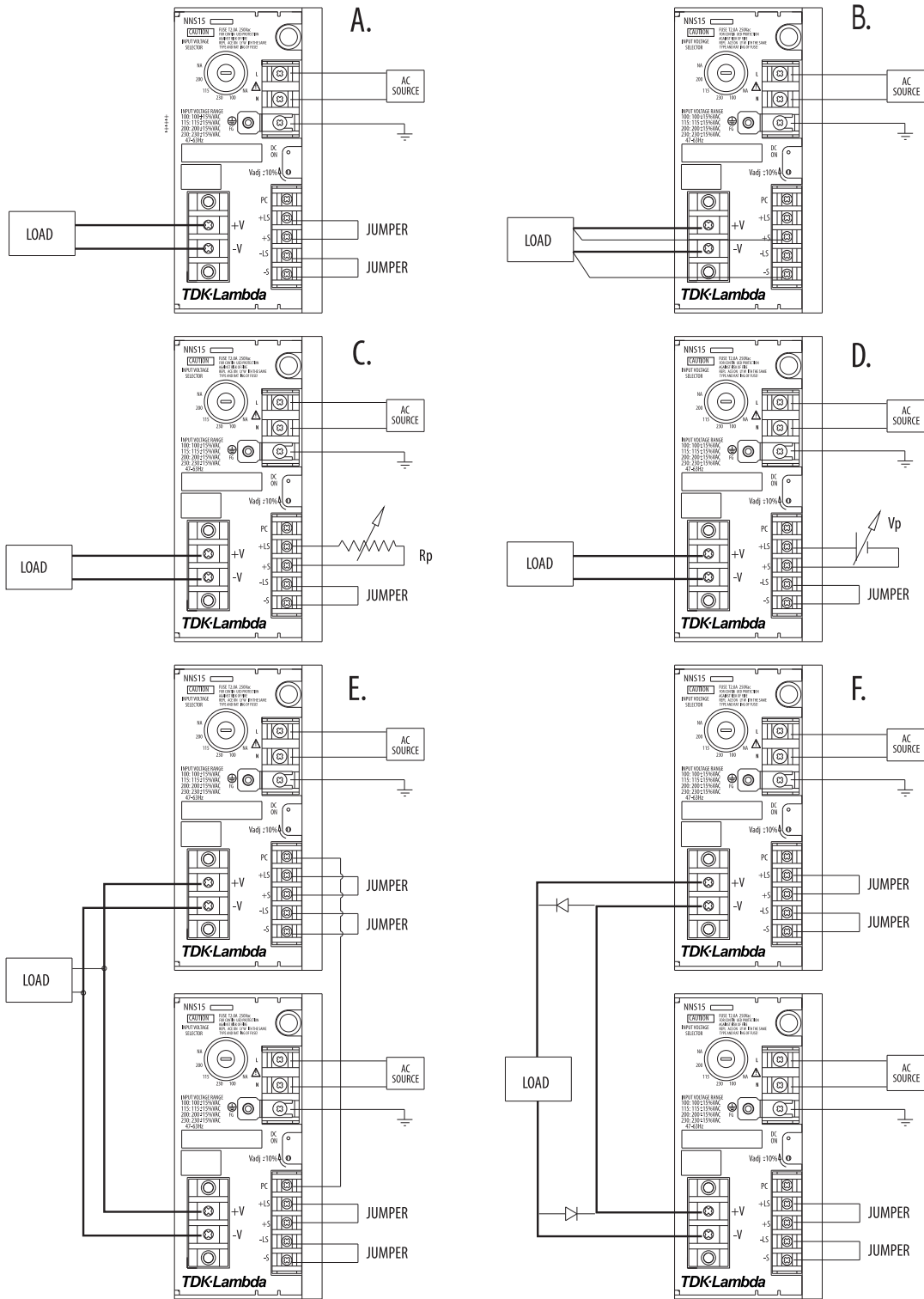
Items		Model	NNS 15-5	NNS 15-12	NNS 15-15	NNS 15-24
1	Nominal Output Voltage	V	5	12.0	15.0	24.0
2	Maximum Output Current	A	3	1.7	1.4	0.9
3	Maximum Output Power	W	15	20.4	21	21.6
4	Efficiency (Typ) (*1)	%	35%	45%	46%	50%
5	Input Voltage Range (*2)	-	100:85~115VAC 200: 170~230VAC	115:98~132VAC 230: 195~265VAC	47~440Hz	
6	Input Current (Typ) (*1)	A	0.55	0.58	0.59	0.55
7	In-rush Current (Typ)	A	20A@ 100VAC 10A@ 200VAC, cold start			
8	Output Voltage Range	%	+/-10			
9	Maximum Ripple & Noise (*3)	mV	1mV RMS 3mV ptp			
10	Maximum Line Regulation	mV	0.5mV	1.2mV	1.5mV	2.4mV
11	Maximum Load Regulation	mV	1.5mV	3.6mV	4.5mV	7.2mV
12	Over Current Protection (4*)	A	3.15~3.90	1.79~2.20	1.47~1.82	0.95~1.17
13	Over Voltage Protection Crowbar Type (*6)	V	6.0~7.2V	14.5~17.2V	18.1~21.5V	29.0~34.3V
14	Remote Programming	-	Volt/Volt, 1000Ω / Volt typ. +S to +LS Terminals			
15	Remote Sensing	-	Possible, Via +S, -S Terminals			
16	Remote ON/OFF Control	-	N.A.			
17	Parallel Operation	-	Possible, current sharing with single connection VIA PC terminal			
18	Series Operation	-	Possible			
19	Operating Temperature	°C	-20~71°C, -20°C...60%, 0~50°C...100%, 60°C...60%, 71°C...40%			
20	Operating Humidity RH	%	30~95%			
21	Storage Temperature	°C	-40~85°C			
22	Storage Humidity RH	%	10~95%			
23	Cooling	-	Convection Cooling			
24	Temperature Coefficient (*1)	-	0.02% / °C			
25	Withstand Voltage	-	Input-Output...3.75K VAC Input-Chassis...2.5K VAC for 1 min. @ 20mA			
26	Insulation Resistance	-	More than 100M Ω at DC 500V @25°C and 70% RH for 1 min.			
27	Vibration	-	10~55Hz Amplitude (sweep 1 min.) less than 2G X, Y, Z 1h. each			
28	Shock	-	Less than 20 G			
29	Weight	gm	1750			
30	Size (W*H*D) (*5)	mm	60 x 124 x 124			
31	EMC	-	Designed to meet EN55032, CISPR-32, FCC Part 15, VCCI-class B			
32	Safety	-	IEC/UL/CSA 60950-1, IEC/EN/UL/CSA 62368-1			

**NOTES**

- \* 1 : At 100VAC and maximum Output Power.
- \* 2: For cases where conformance various safety specs. (UL, UL-C, etc.) are required, input voltage will be 250VAC max. and frequency range 47~ 63Hz.
- \* 3: Floating output or grounded +V or -V Terminal.
- \* 4: Foldback current limit with automatic recover for each output.
- \* 5: See Outline Drawings.
- \* 6: For each output - OVP circuit will shut down output, manual reset. (Line recycle)

**IMPORTANT,**

See Installation Instructions Before Connecting to the Supply.



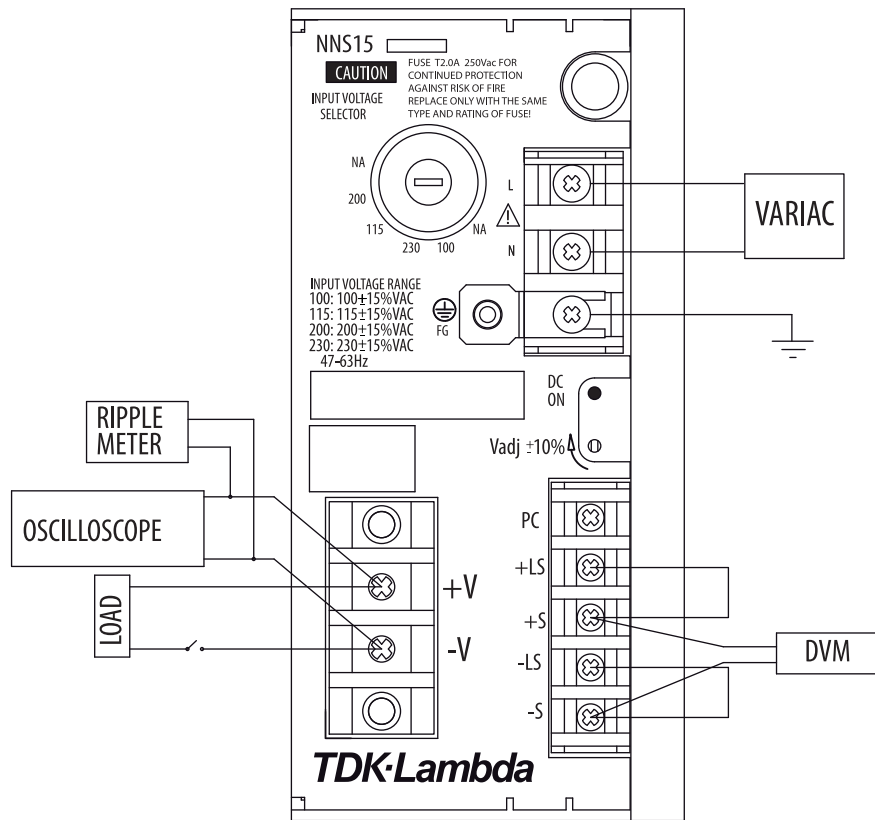
**CONNECTIONS DIAGRAM:**

- A. LOCAL SENSING.
- B. REMOTE SENSING.
- C. RESISTIVE PROGRAMMING (LOCAL SENSE).
- D. VOLTAGE PROGRAMMING (LOCAL SENSE).
- E. PARALLEL OPERATION WITH CURRENT SHARE (LOCAL SENSE).
- F. SERIES OPERATION (LOCAL SENSE) EXTERNAL DIODES RATING: 3A, 50V.

**NOTES:**

1. NNS15 MODEL IS NOT RECOMMENDED FOR CONSTANT CURRENT LOADS.
2. MAX. CAPACITIVE LOAD RECOMMENDED:  
 NNS15-5: 10,000uF NNS15-12: 8,200uF  
 NNS15-15: 8,200uF NNS15-24: 3,000uF

## CONNECTIONS FOR PERFORMANCE CHECKS



**NOTES:**

1. REGULATION AND RIPPLE METERS MUST NOT BE GROUNDED THROUGH THREE-WIRE LINE CORD TO GROUND.
2. PERFORM CHECKS WITH LOCAL SENSING CONNECTIONS ONLY.

### SAFETY INSTRUCTIONS - NNS15:

1. FUSES MUST BE CHANGED BY AUTHORIZED SERVICE PERSONNEL ONLY!
 

F1:	T2.0A	250V	
F2:	15A	250V	(NNS15-5).
	8A	250V	(NNS15-12, NNS15-15).
	5A	250V	(NNS15-24).
2. POWER SUPPLY MUST BE SECURED TO THE CHASSIS OF THE END USE EQUIPMENT BY 4 SCREWS INSERTED INTO THREADED OPENINGS IN THE BOTTOM OF THE POWER SUPPLY ENCLOSURE (REFER TO OUTLINE DRWG.).
3. MAXIMUM LEAKAGE CURRENT OF END-USE EQUIPMENT SHOULD NOT EXCEED 3.5mA.

### CE MARK

CE Marking when applied to a product covered by this handbook indicates compliance with the Low Voltage Directive (LVD) of the European Union in that it complies with EN 62368-1.

A "Declaration of Conformity" in accordance with the preceding directive and standard has been made and is on file at our EU representative: TDK-LAMBDA Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern.

The latest revision of EU Declaration of Conformity is available via company web site [www.emea.tdk-lambda.com/manual](http://www.emea.tdk-lambda.com/manual).

