NDR-240 Series

240W Single Output Industrial DIN RAIL

K60950-1 (for 48V only) R33100 RoHS TPTC004 BS EN/EN62368-1 IEC62368-1

Features

- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508 (industrial control equipment) approved
- BS EN/EN61000-6-2(BS EN/EN50082-2) industrial immunity level
- 100% full load burn-in test
- 3 years warranty

Applications

- Industrial control system
- Semi-conductor fabrication equipment
- Factory automation
- Electro-mechanical

Description

NDR-240 is one economical slim 240W Din rail power supply series, adapt to be installed on TS-35/7.5 or TS-35/15 mounting rails. The body is designed 63mm in width, which allows space saving inside the cabinets. The entire series adopts the full range AC input from 90VAC to 264VAC and conforms to BS EN/EN61000-3-2, the norm the European Union regulates for harmonic current.

NDR-240 is designed with metal housing that enhances the unit's power dissipation. With working efficiency up to 90%, the entire series can operate at the ambient temperature between -20℃ and 70℃ under air convection. It is equipped with constant current mode for over-load protection, fitting various inductive or capacitive applications. The complete protection functions and relevant certificates for industrial control apparatus (UL508, TUV BS EN/EN62368-1, and etc.) make NDR-240 a very competitive power supply solution for industrial applications.

Model Encoding

NDR - 240 - 48

- 48 — Output voltage
- 240 — Output wattage
- NDR — Series name

*-E model supports -40°C ~ 70°C (NDR-240-48-E)

SPECIFICATION

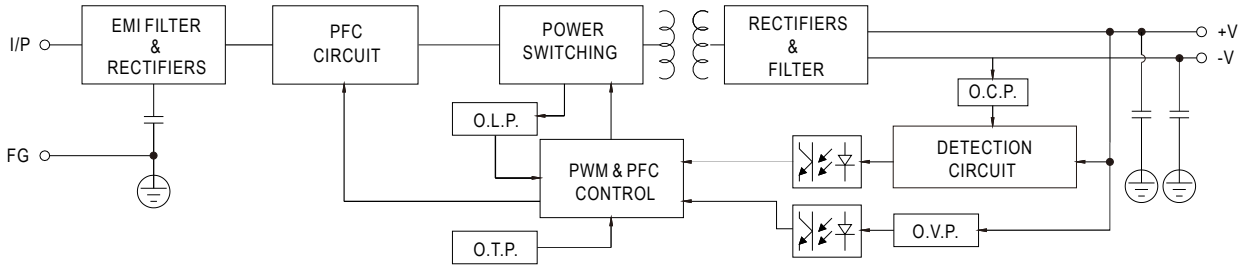
MODEL		NDR-240-24	NDR-240-48
OUTPUT	DC VOLTAGE	24V	48V
	RATED CURRENT	10A	5A
	CURRENT RANGE	0 ~ 10A	0 ~ 5A
	RATED POWER	240W	240W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%
	SETUP, RISE TIME	1500ms, 100ms/230VAC 3000ms, 100ms/115VAC at full load	
	HOLD UP TIME (Typ.)	28ms/230VAC 22ms/115VAC at full load	
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC 127 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC at full load	
	EFFICIENCY (Typ.)	88.5%	90%
	AC CURRENT (Typ.)	2.5A/115VAC 1.3A/230VAC	
	INRUSH CURRENT (Typ.)	20A/115VAC 35A/230VAC	
	LEAKAGE CURRENT	<1mA / 240VAC	
PROTECTION	OVERLOAD	105 ~ 130% rated output power	
		Protection type : Constant current limiting, recovers automatically after fault condition is removed	
	OVER VOLTAGE	29 ~ 33V	56 ~ 65V
		Protection type : Shut down o/p voltage, re-power on to recover	
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down	
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to "Derating Curve") *-E model supports -40°C ~ 70°C (NDR-240-48-E)	
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)	
	VIBRATION	Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6	
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL508, TUV BS EN/EN62368-1, EAC TP TC 004, BSMI CNS14336-1, BIS IS13252(Part1): 2010/IEC 60950-1:2005(NOTE 8) , KC K60950-1(for 48V only)approved; (meet BS EN/EN60204-1)	
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500VDC / 25℃/ 70% RH	
	EMC EMISSION	Compliance to BS EN/EN55032 (CISPR32), BS EN/EN61204-3 Class B, BS EN/EN61000-3-2,-3, EAC TP TC 020, CNS13438, KSC 9832(for 48V only)	
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035, BS EN/EN61000-6-2 (BS EN/EN50082-2), BS EN/EN61204-3, heavy industry level, EAC TP TC 020,KSC 9835(for 48V only)	
OTHERS	MTBF	1645.2K hrs min. Telcordia SR-332 (Bellcore) ; 230.2K hrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	63*125.2*113.5mm (W*H*D)	
	PACKING	1Kg; 12pcs/13Kg/1.22CUFT	

NOTE

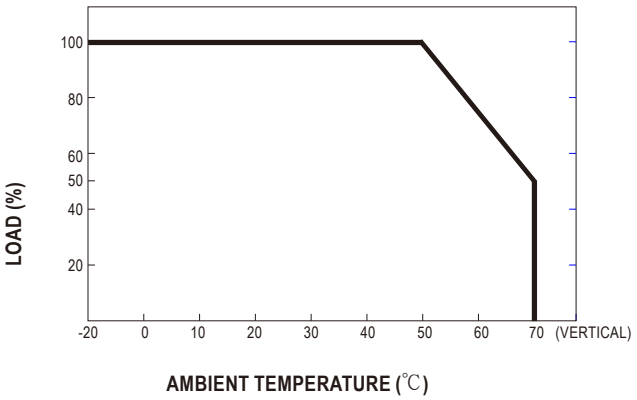
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Installation clearances : 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.
5. Derating may be needed under low input voltage. Please check the derating curve for more details.
6. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives.
7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m (6500ft).

■ Block Diagram

fosc : 70KHz

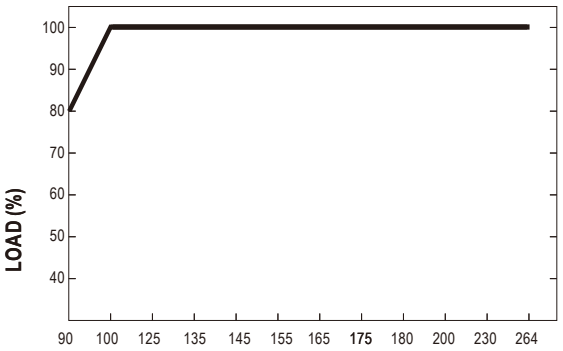


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Output derating VS input voltage

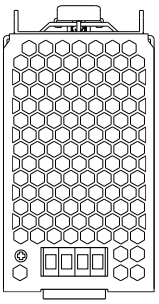


INPUT VOLTAGE (V) 60Hz

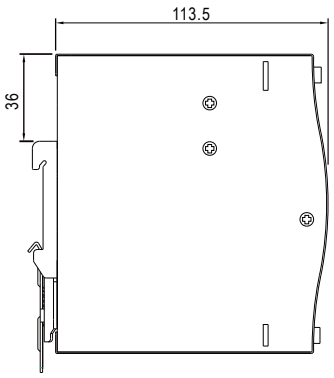
■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

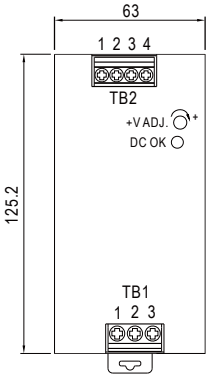
Case No.979C



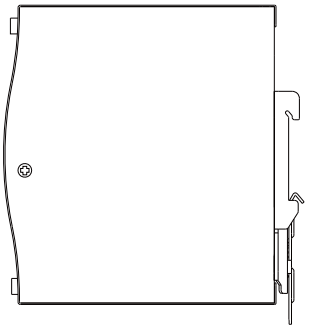
Top View



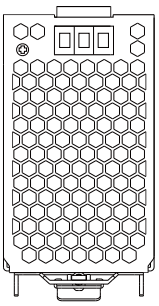
Side View



Front View



Side View



Bottom View

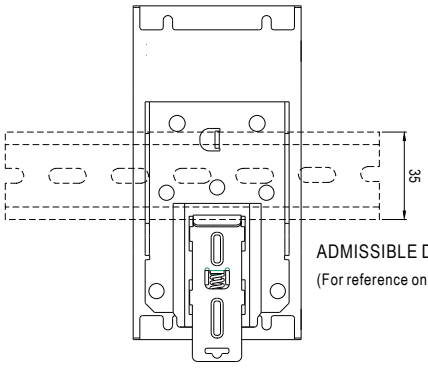
Terminal Pin No. Assignment (TB1)

Pin No.	Assignment
1	FG ⏚
2	AC/N or DC -
3	AC/L or DC +

Terminal Pin No. Assignment (TB2)

Pin No.	Assignment
1,2	DC OUTPUT -V
3,4	DC OUTPUT+V

■ Installation Instruction



ADMISSIBLE DIN-RAIL:TS35/7.5 OR TS35/15

(For reference only. Not included with unit.)

Back View

This series fits DIN-RAIL TS35/7.5 or TS35/15.

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