HDR-240 Series

240W Single Output Industrial DIN RAIL

Features

- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- LED Indicator for DC Low
- Can be installed on DIN rail TS-35/7.5 or 15
- UL approved
- Industrial immunity level
- 100% full load burn-in test
- 3 years warranty

Applications

- Industrial control system
- Factory automation
- Electro-mechanical apparatus

Description

HDR-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 60mm in width, which allows space saving inside the cabinets. The entire series adopts the full range AC input from 90VAC to 264VAC .

HDR-240 is designed with metal housing that enhances the unit's power dissipation. With working efficiency up to 91%, 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 make HDR-240 a very competitive power supply solution for industrial applications.

Model Encoding

HDR - 240 - 24

- 24 — Output voltage
- 240 — Output wattage
- HDR — Series name

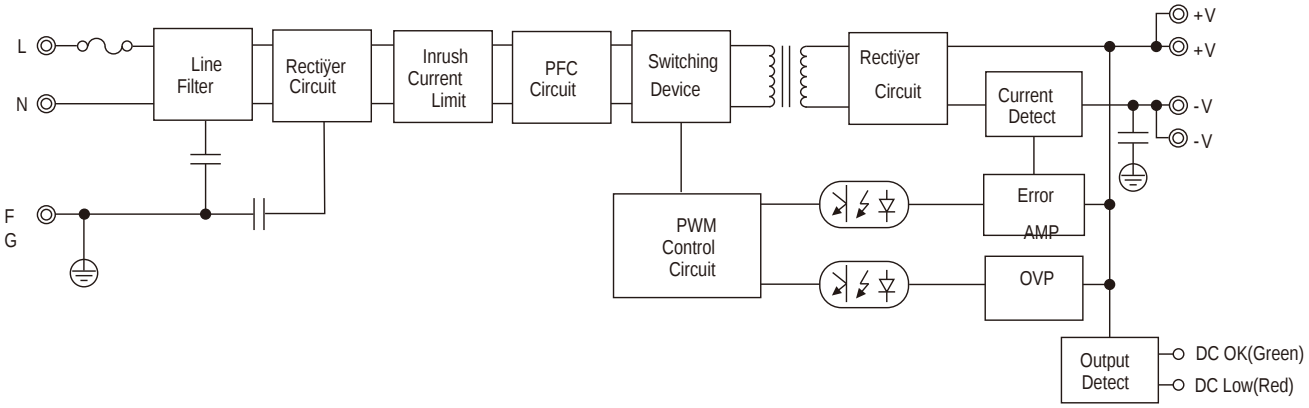
SPECIFICATION

MODEL		HDR-240-24	HDR-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	1.0% Vo mVp-p	1.0% Vo mVp-p
	VOLTAGE ADJ. RANGE	22 ~ 28V	44 ~ 55V
	VOLTAGE TOLERANCE Note.3	±3.0%	±3.0%
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%
	SETUP, RISE TIME	1500ms, 100ms/230VAC 3600ms, 100ms/115VAC at full load	
	HOLD UP TIME (Typ.)	20ms/230VAC 20ms/115VAC at full load	
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC 127 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	PF>0.99/115VAC, PF>0.97/230VAC at full load	
	EFFICIENCY (Typ.)	94%	94%
	AC CURRENT (Typ.)	2.6A/115VAC 1.3/230VAC	
	INRUSH CURRENT (Typ.)	35A/115VAC 65A/230VAC	
	LEAKAGE CURRENT	<2mA / 240VAC	
PROTECTION	OVERLOAD	105 ~ 130% rated output power	
		Protection type : Hiccup, unit will shut down after 3 sec., re-power on to recover	
	OVER VOLTAGE	22 ~ 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")	
	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	UL60950-1, EN60950-1	
	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 Class B	
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11,BS EN/EN55024,BS EN/EN61000-6-2 (BS EN/EN50082-2),BS EN/EN61204-3, heavy industry level, criteria A, EAC TP TC 020	
OTHERS	MTBF	146.8K hrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	60.0 x 130.0 x 125.0mm (2.36 x 5.12 x 4.92inch)	
	PACKING	1Kg/pcs11pcs/12.5kg/0.7cuft/carton Carton size 620 x 260 x 175mm (LxWxH)	

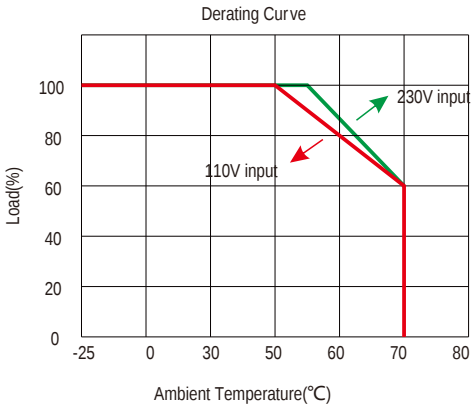
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf 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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."
7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

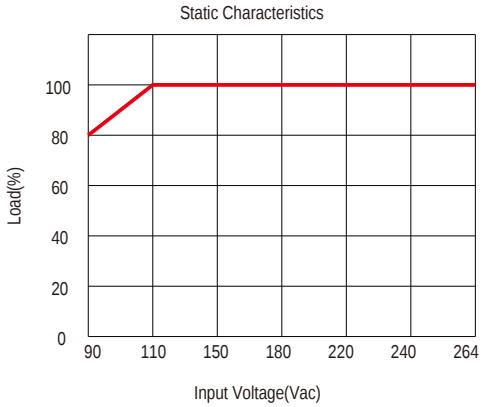
Block Diagram



Derating Curve



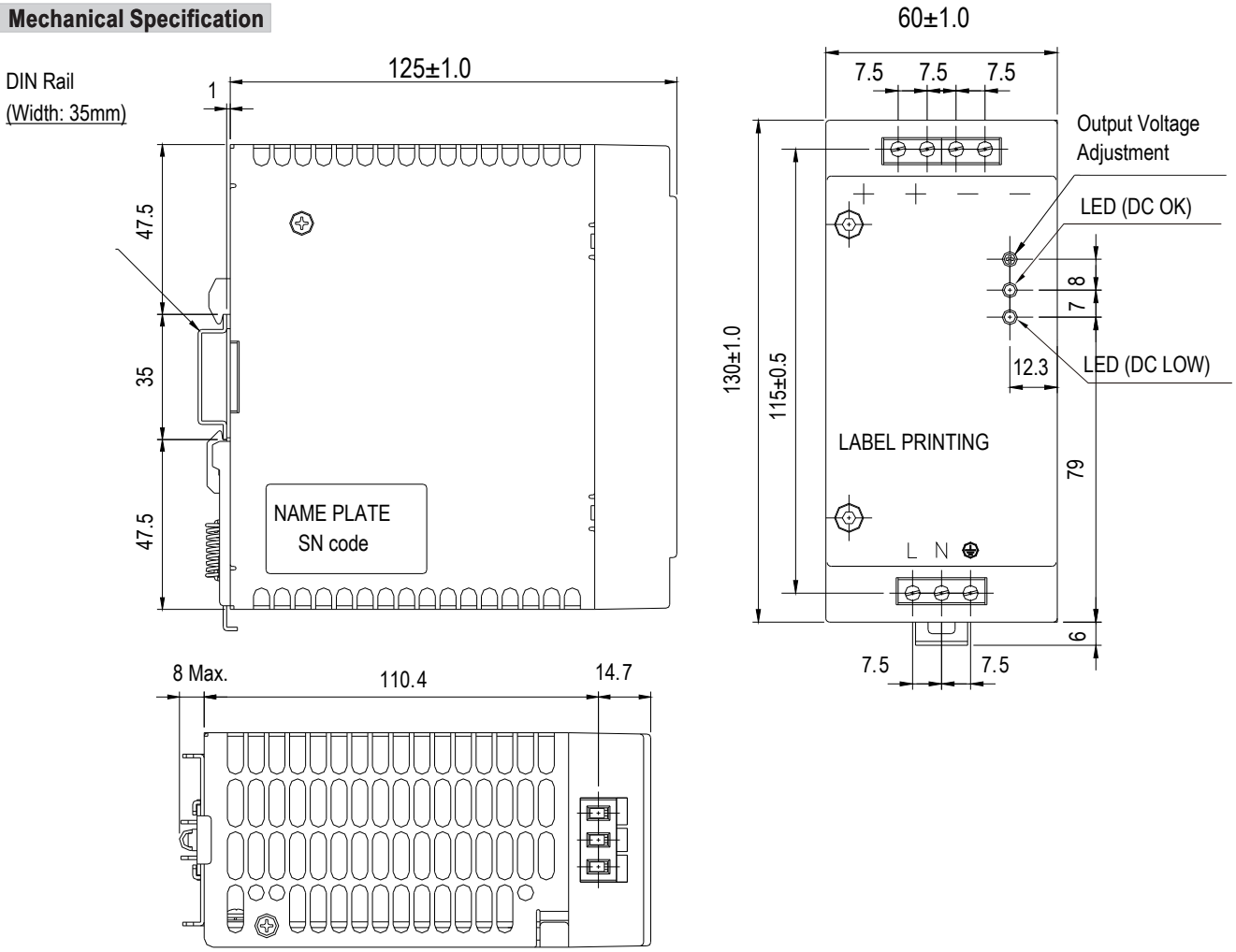
Output derating VS input voltage

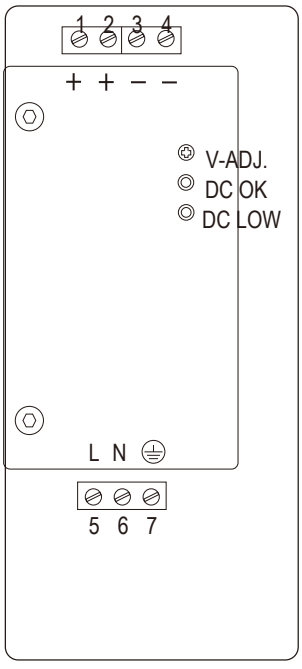


DC OK AND DC LOW

DC-OK led	LED(Green) DC OK LED light will be ON when properly operated
DC-Low led	LED(Red) DC Low LED light will be ON: (1) when output voltage is below 85%(±2.5%) from the rated output voltage; (2) when get over voltage, over current, over temperature and short circuit fault

■ Mechanical Specification





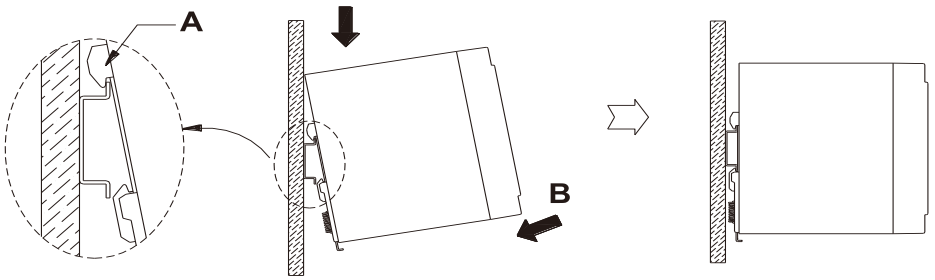
Marking	No.	Assignment
+	1	DC(+) Output Terminal
+	2	
−	3	DC(-) Output Terminal
−	4	
L	5	AC(L) Input Terminal
N	6	AC(N) Input Terminal
⏚	7	AC Grounding Terminal
V-ADJ.	/	DC Output voltage adjustment trimmer
DC OK	/	DC Output OK indication LED(Green)
DC LOW	/	DC Output Low indication LED(Red)

■ Installation Instruction

This series fits DIN rail TS35/7.5 or TS35/15.

(1) How to fix

Firstly hang A part on the top of Rail as shown in below, then push the power supply into B di-rection to fix it.



(2) How to remove

Remove the power supply to D direction, pulling C part by using tools, such as a screwdriver, to downward direction.