60W Ultra Slim Step Shape DIN Rail

HDR-60 series

Features

- Ultra slim design with 52.5mm(3SU) width
- Universal input 85~264VAC(277VAC operational)
- No load power consumption<0.3W
- Isolation class Ⅱ
- Pass LPS (Limited power source)
- DC output voltage adjustable
- Protections : Short circuit / Overload / Over voltage
- Cooling by free air convection (working temperature:-30~+70°C)
- DIN rail TS-35/7.5 or 15 mountable
- Over voltage category Ⅲ
- LED indicator for power on
- 3 years warranty

Applications

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

Description

HDR-60 is one economical ultra slim 60W DIN rail power supply series, adapt to be installed on TS-35/7.5 or TS-35/15 mounting rails. The body is designed 52.5mm(3SU) in width, which allows space saving inside the cabinets. The entire series adopts the full range AC input from 85VAC to 264VAC (277VAC operational) and conforms to EN61000-3-2, the norm the European Union regulates for harmonic current.

HDR-60 is designed with plastic housing that it can effectively prevent user from electric hazards. With working efficiency up to 91%, the entire series can operate at the ambient temperature between -30℃ and 70℃ under air convection. The complete protection functions and relevant certificates for home automations and industrial control apparatus (IEC60950-1,UL508,UL60950-1,EN61558-2-16) make HDR-60 a very competitive power supply solution for household and industrial applications.

Model Encoding

HDR - 60 - 12

- 12 — Output voltage
- 60 — Rated wattage
- HDR — Series name

60W Ultra Slim Step Shape DIN Rail HDR-60 series

SPECIFICATION

MODEL		HDR-60-24
OUTPUT	DC VOLTAGE	24V
	RATED CURRENT	2.5A
	CURRENT RANGE	0 ~ 2.5A
	RATED POWER	60W
	RIPPLE & NOISE (max.) Note.2	150mVp-p
	VOLTAGE ADJ. RANGE	21.6 ~ 29V
	VOLTAGE TOLERANCE Note.3	±1.0%
	LINE REGULATION	±1.0%
	LOAD REGULATION	±1.0%
	SETUP, RISE TIME	500ms, 50ms/230VAC 500ms, 50ms/115VAC at full load
	HOLD UP TIME (Typ.)	30ms/230VAC 12ms/115VAC at full load
INPUT	VOLTAGE RANGE	85 ~ 264VAC (277VAC operational) 120 ~ 370VDC (390VDC operational)
	FREQUENCY RANGE	47 ~ 63Hz
	EFFICIENCY (Typ.)	90%
	AC CURRENT (Typ.)	1.2A/115VAC 0.8A/230VAC
	INRUSH CURRENT (Typ.)	COLD START 30A/115VAC 60A/230VAC
PROTECTION	OVERLOAD	105 ~ 160% rated output power Hiccup mode when output voltage <50%, recovers automatically after fault condition is removed Constant current limiting within 50% ~100% rated output voltage, recovers automatically after fault condition is removed
	OVER VOLTAGE	30 ~ 36V Protection type : Shut down o/p voltage, re-power on to recover
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")
	WORKING HUMIDITY	20 ~ 90% RH non-condensing
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃) RH non-condensing
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6
	OPERATING ALTITUDE	2000 meters
	OVER VOLTAGE CATEGORY	Ⅲ ; According to EN61558, EN50178,EN60664-1, EN62477-1 ; altitude up to 2000 meters
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, UL508, TUV EN61558-2-16, IEC60950-1, EAC TP TC 004, BSMI CNS14336-1 approved; Design refer to TUV EN60950-1
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH

EMC EMISSION

Parameter	Standard	Test Level / Note
Conducted	EN55032(CISPR32), CNS13438	Class B
Radiated	EN55032(CISPR32), CNS13438	Class B
Harmonic Current	EN61000-3-2	Class A
Voltage Flicker	EN61000-3-3	-------

EMC IMMUNITY

EN55024, EN55035, EN61000-6-2, EN61204-3

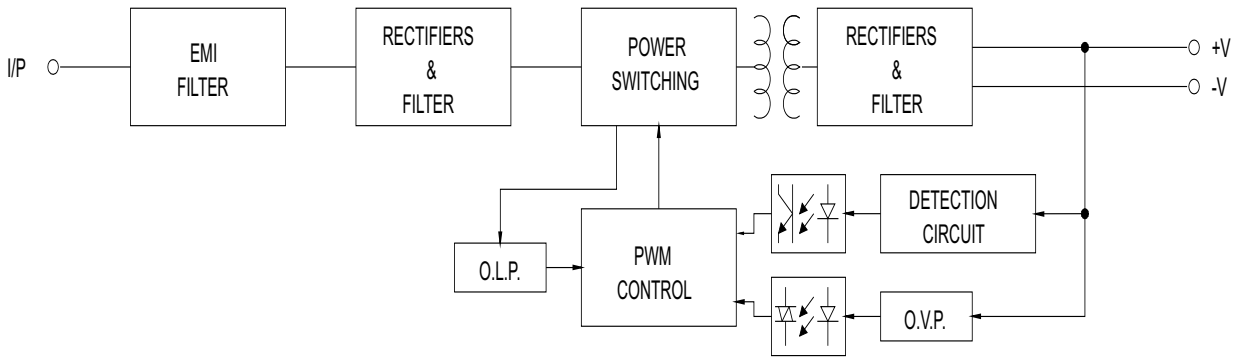
Parameter	Standard	Test Level /Note
ESD	EN61000-4-2	Level 3, 8KV air; Level 2, 4KV contact, criteria A
Radiated Susceptibility	EN61000-4-3	Level 3, criteria A
EFT/Burest	EN61000-4-4	Level 3, criteria A
Surge	EN61000-4-5	Level 4,2KV/L-N, criteria A
Conducted	EN61000-4-6	Level 3, criteria A
Magnetic Field	EN61000-4-8	Level 4, criteria A
Voltage Dips and interruptions	EN61000-4-11	＞95% dip 0. 5 periods, 30% dip 25 periods, ＞95% interruptions 250 periods

OTHERS	MTBF	927.6K hrs min. MIL-HDBK-217F (25℃)
	DIMENSION	52.5*90*54.5mm (W*H*D)
	PACKING	190g;60pcs/12.4Kg/0.97CUFT

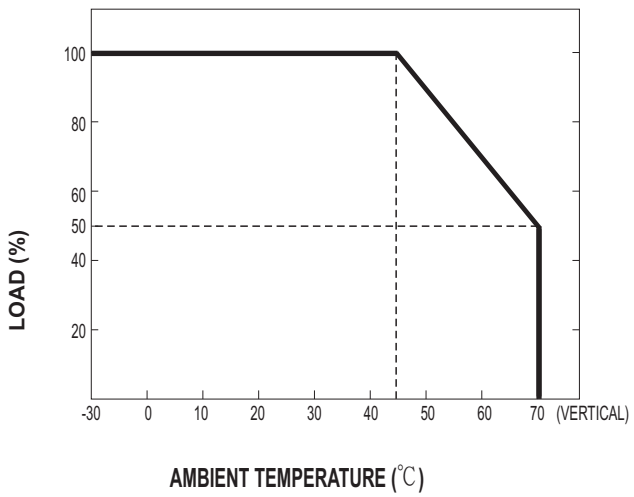
NOTE

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 0.1μf & 47μf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. 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.” (as available on http://www.meanwell.com)
5. 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).

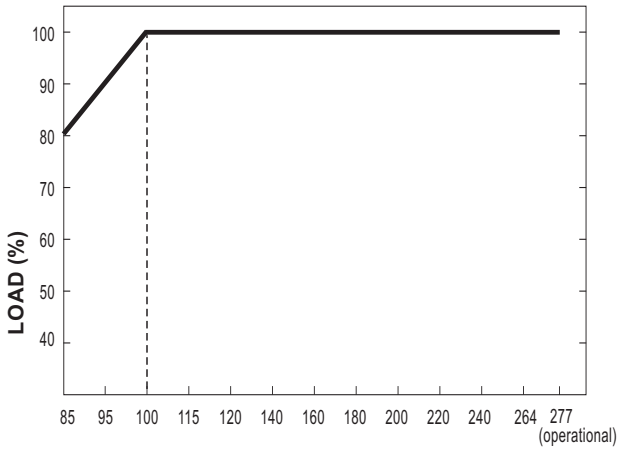
■ Block Diagram



■ Derating Curve

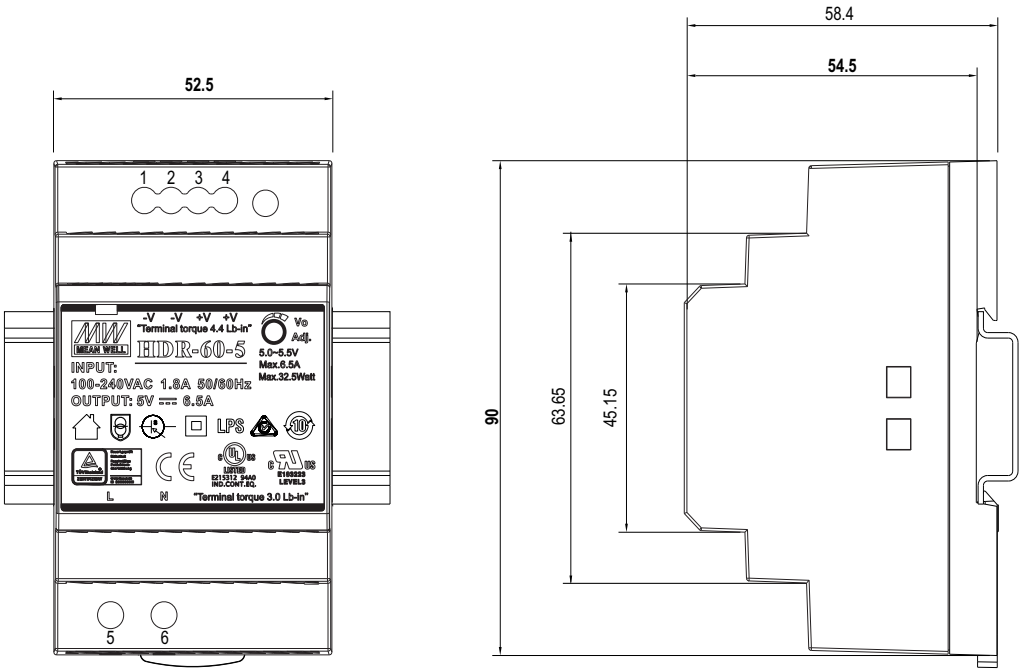


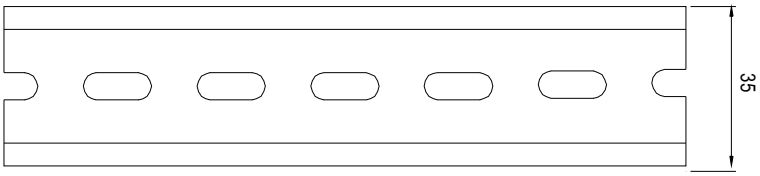
■ Output Derating VS Input Voltage



■ Mechanical Specification

（Unit: mm , tolerance ± 0.5mm)





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

Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1,2	-V	5	AC/L
3,4	+V	6	AC/N

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html