



■ **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**

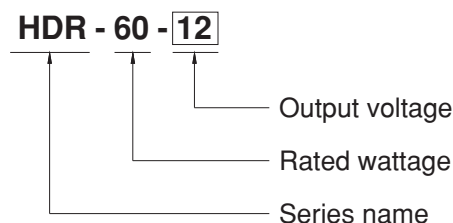
- Household control system
- Building automation
- Industrial control system
- Factory automation
- Electro-mechanical apparatus

■ **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°C and 70°C 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**

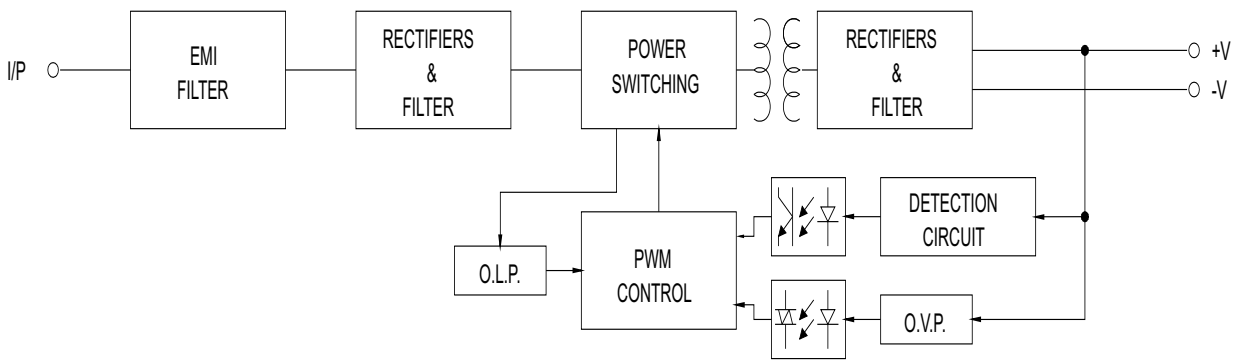




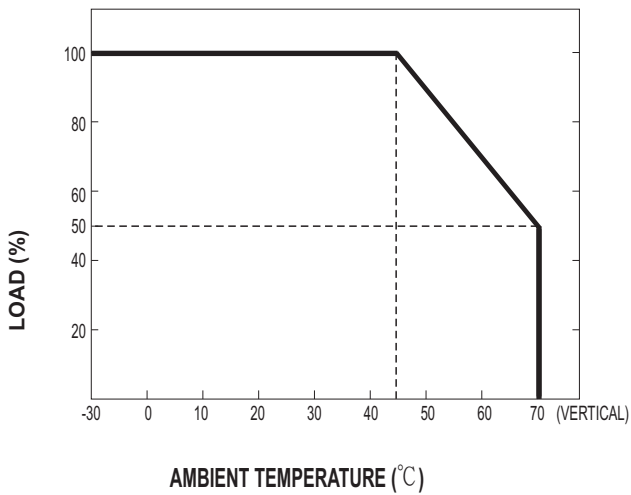
SPECIFICATION

| MODEL | HDR-60-5 | HDR-60-12 | HDR-60-15 | HDR-60-24 | HDR-60-48 | | |
|--------------------------------|--|---|----------------------------|--|------------------------------|--|--|
| OUTPUT | DC VOLTAGE | 5V | 12V | 15V | 24V | 48V | |
| | RATED CURRENT | 6.5A | 4.5A | 4A | 2.5A | 1.25A | |
| | CURRENT RANGE | 0 ~ 6.5A | 0 ~ 4.5A | 0 ~ 4A | 0 ~ 2.5A | 0 ~ 1.25A | |
| | RATED POWER | 32.5W | 54W | 60W | 60W | 60W | |
| | RIPPLE & NOISE (max.) Note.2 | 80mVp-p | 120mVp-p | 120mVp-p | 150mVp-p | 240mVp-p | |
| | VOLTAGE ADJ. RANGE | 5.0 ~ 5.5V | 10.8 ~ 13.8V | 13.5 ~ 18V | 21.6 ~ 29V | 43.2 ~ 55.2V | |
| | VOLTAGE TOLERANCE Note.3 | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | LINE REGULATION | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | LOAD REGULATION | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±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.) | 85% | 88% | 89% | 90% | 91% | |
| | 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 | 5.75 ~ 6.75V | 14.2 ~ 16.2V | 18.8 ~ 22.5V | 30 ~ 36V | 56.5 ~ 64.8V | |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | |
| ENVIRONMENT | WORKING TEMP. | -30 ~ +70°C (Refer to "Derating Curve") | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +85°C, 10 ~ 95% RH non-condensing | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0 ~ 50°C) 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°C / 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°C) | | | | | |
| | DIMENSION | 52.5*90*54.5mm (W*H*D) | | | | | |
| | PACKING | 190g;60pcs/12.4Kg/0.97CUFT | | | | | |
| NOTE | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>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)</p> <p>5. 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).</p> | | | | | | |

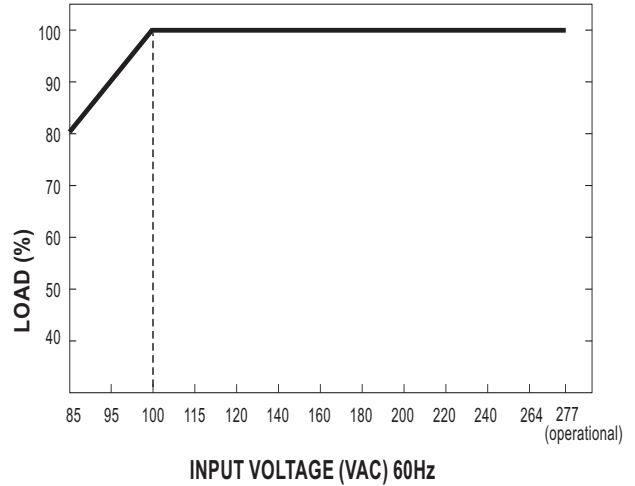
■ Block Diagram



■ Derating Curve

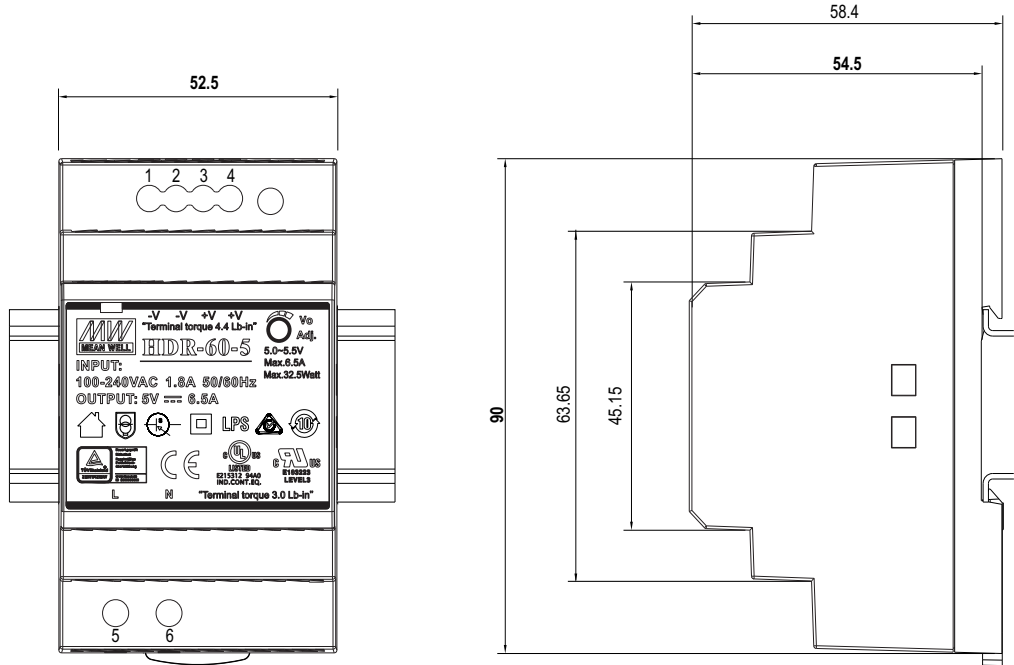


■ Output Derating VS Input Voltage



■ **Mechanical Specification**

(Unit: mm , tolerance $\pm 0.5\text{mm}$)



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>