



## ■ Features

- Ultra slim design with 35mm(2SU) width
- Universal input 85~264VAC(277VAC available)
- 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
- LED indicator for power on
- 3 years warranty

## ■ Applications

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

## ■ Description

HDR-30 is one economical ultra slim 30W DIN rail power supply series, adapt to be installed on TS-35/7.5 or TS-35/15 mounting rails. The body is designed 35mm(2SU) in width, which allows space saving inside the cabinets. The entire series adopts the full range AC input from 85VAC to 264VAC(277VAC also available) and conforms to EN61000-3-2, the norm the European Union regulates for harmonic current.

HDR-30 is designed with plastic housing that it can effectively prevent user from electric hazards. With working efficiency up to 90%, the entire series can operate at the ambient temperature between -30°C and 70°C under air convection. It is equipped with constant current mode for overload protection, fitting various inductive or capacitive applications. The complete protection functions and relevant certificates for home automations and industrial control apparatus (IEC60950-1, UL508, UL60950-1, EN61558-2-16) make HDR-30 a very competitive power supply solution for household and industrial applications.

## ■ Model Encoding

**HDR-30-12**

Output voltage

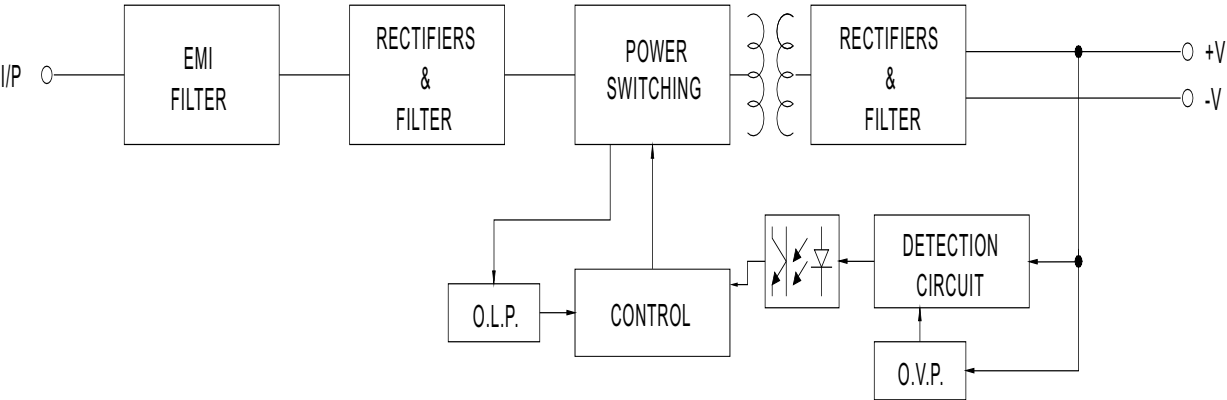
Output wattage

Series name

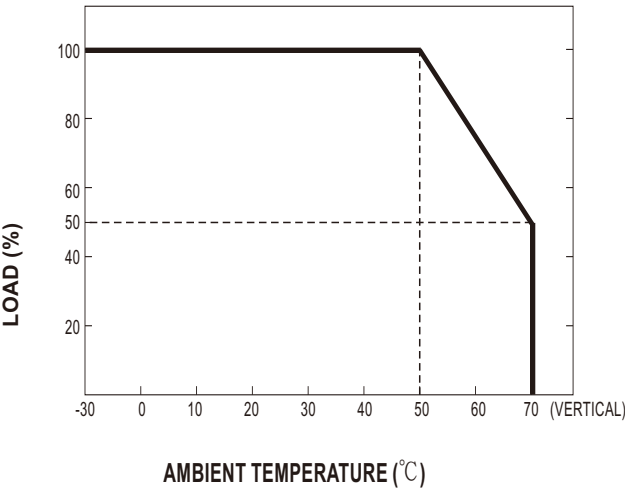
**SPECIFICATION**

| MODEL                                   |                                             | HDR-30-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | HDR-30-12                                | HDR-30-15    | HDR-30-24                                                                    | HDR-30-48                                          |  |
|-----------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------|------------------------------------------------------------------------------|----------------------------------------------------|--|
| OUTPUT                                  | DC VOLTAGE                                  | 5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 12V                                      | 15V          | 24V                                                                          | 48V                                                |  |
|                                         | RATED CURRENT                               | 3A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2A                                       | 2A           | 1.5A                                                                         | 0.75A                                              |  |
|                                         | CURRENT RANGE                               | 0 ~ 3A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0 ~ 2A                                   | 0 ~ 2A       | 0 ~ 1.5A                                                                     | 0 ~ 0.75A                                          |  |
|                                         | RATED POWER                                 | 15W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 24W                                      | 30W          | 36W                                                                          | 36W                                                |  |
|                                         | RIPPLE & NOISE (max.) <small>Note.2</small> | 80mVp-p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 120mVp-p                                 | 120mVp-p     | 150mVp-p                                                                     | 240mVp-p                                           |  |
|                                         | VOLTAGE ADJ. RANGE                          | 4.5 ~ 5.5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10.8 ~ 13.8V                             | 13.5 ~ 18V   | 21.6 ~ 29V                                                                   | 43.2 ~ 55.2V                                       |  |
|                                         | VOLTAGE TOLERANCE <small>Note.3</small>     | ±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 available )      120 ~ 370VDC (390VDC available )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |              |                                                                              |                                                    |  |
|                                         | FREQUENCY RANGE                             | 47 ~ 63Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |              |                                                                              |                                                    |  |
|                                         | EFFICIENCY (Typ.)                           | 82%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 88%                                      | 89%          | 89%                                                                          | 90%                                                |  |
|                                         | AC CURRENT (Typ.)                           | 0.88A/115VAC      0.48A/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |              |                                                                              |                                                    |  |
|                                         | INRUSH CURRENT (Typ.)                       | COLD START 25A/115VAC      45A/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |              |                                                                              |                                                    |  |
| PROTECTION                              | OVERLOAD <small>Note.4</small>              | 105 ~ 160% rated output power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |              |                                                                              |                                                    |  |
|                                         |                                             | Protection type : Constant current limiting, recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |              |                                                                              |                                                    |  |
|                                         | OVER VOLTAGE                                | 5.75 ~ 7.5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 15 ~ 18V                                 | 18.8 ~ 22.5V | 30 ~ 36V                                                                     | 57.6~ 67.2V                                        |  |
| ENVIRONMENT                             |                                             | Protection type : Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |              |                                                                              |                                                    |  |
|                                         | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |              |                                                                              |                                                    |  |
| SAFETY & EMC<br><small>(Note 5)</small> | OPERATING ALTITUDE                          | 2000 meters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                          |              |                                                                              |                                                    |  |
|                                         | SAFETY STANDARDS                            | UL60950-1, UL508, TUV EN61558-2-16, IEC60950-1 approved; Design refer to EN50178,TUV EN60950-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |              |                                                                              |                                                    |  |
|                                         | WITHSTAND VOLTAGE                           | I/P-O/P:3KVAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |              |                                                                              |                                                    |  |
|                                         | ISOLATION RESISTANCE                        | I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |              |                                                                              |                                                    |  |
|                                         | EMC EMISSION                                | Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Standard                                 |              |                                                                              | Test Level / Note                                  |  |
|                                         |                                             | Conducted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EN55032(CISPR32)                         |              |                                                                              | Class B                                            |  |
|                                         |                                             | Radiated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EN55032(CISPR32)                         |              |                                                                              | 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,<br>>95% interruptions 250 periods |                                                    |  |
| OTHERS                                  | MTBF                                        | 968.1K hrs min.      MIL-HDBK-217F (25℃)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |              |                                                                              |                                                    |  |
|                                         | DIMENSION                                   | 35*90*54.5mm (W*H*D)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |              |                                                                              |                                                    |  |
|                                         | PACKING                                     | 0.12Kg;96pcs/12.5Kg/1.04CUFT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |              |                                                                              |                                                    |  |
| NOTE                                    |                                             | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. Constant current limiting operation within 50% ~100% rated output voltage; protection type for short ciruit is hiccup mode,it will recover automatically after fault condition is removed.<br>5.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.”<br>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> ) |                                          |              |                                                                              |                                                    |  |

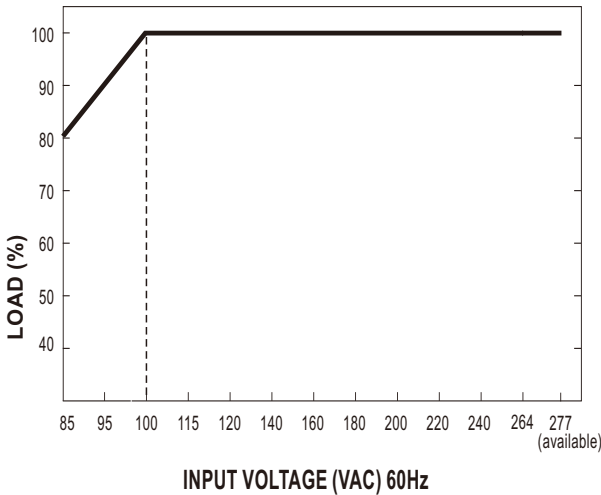
■ Block Diagram

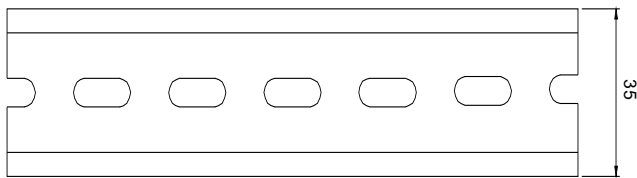
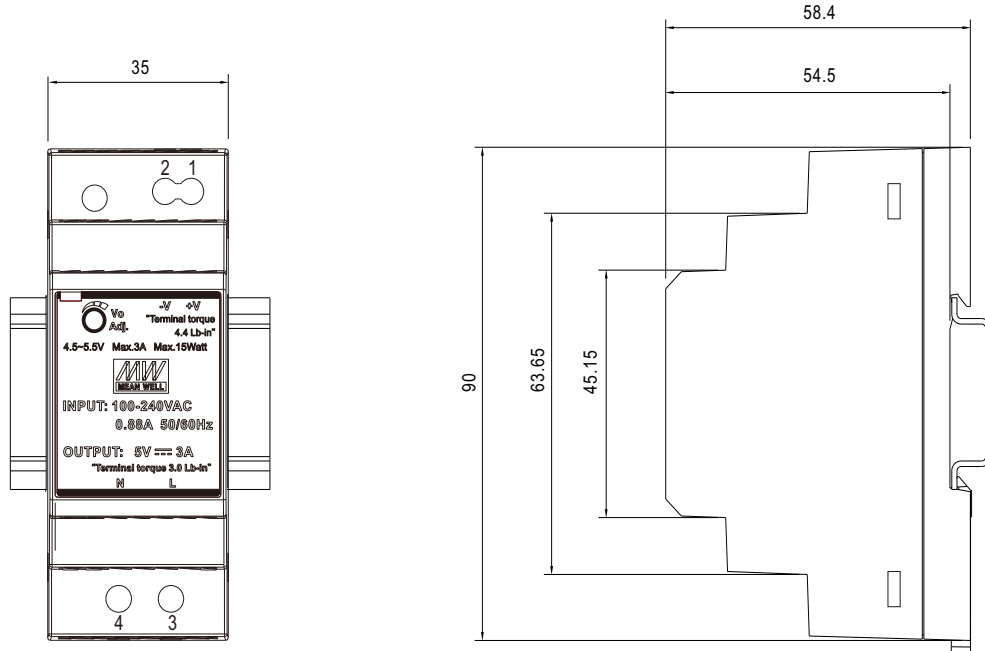


■ Derating Curve



■ 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       | +V         | 3       | AC/L       |
| 2       | -V         | 4       | AC/N       |

**Installation Manual**Please refer to : <http://www.meanwell.com/manual.html>