



## Features

- Ultra slim design with 70mm(4SU) width
- Universal input 85~264VAC(277VAC operational)
- No load power consumption<0.3W
- Isolation class II
- Pass LPS (Limited power source) for Blank type
- 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

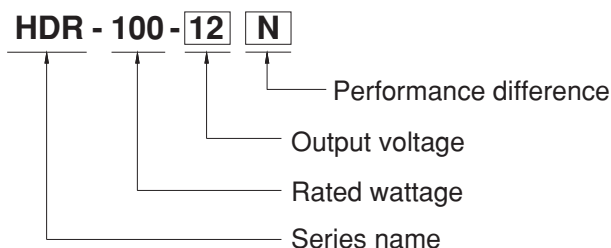
## Applications

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

## Description

HDR-100 is one economical ultra slim 100W DIN rail power supply series, adapt to be installed on TS-35/7.5 or TS-35/15 mounting rails. The body is designed 70mm(4SU) 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-100 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. The complete protection functions and relevant certificates for home automations and industrial control apparatus (IEC62368-1,UL508, UL62368-1, EN61558-2-16) make HDR-100 a very competitive power supply solution for household and industrial applications.

## Model Encoding

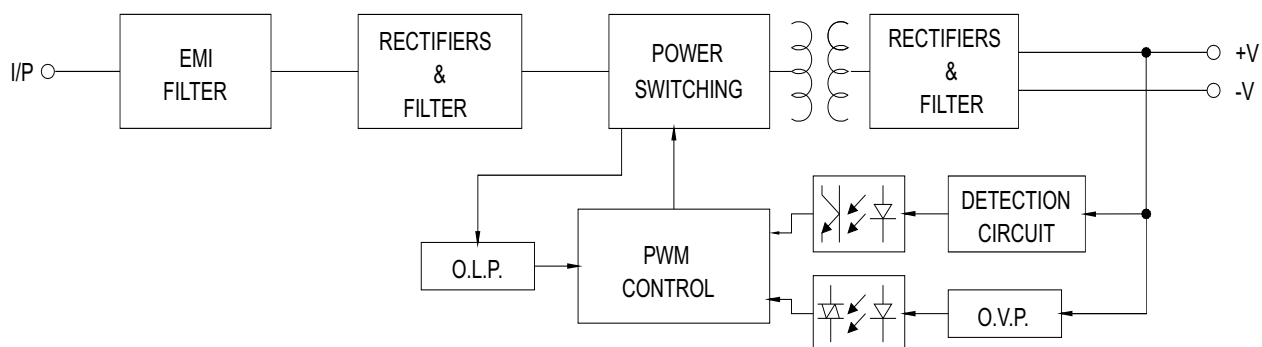


| Type  | Description                                               | Note     |
|-------|-----------------------------------------------------------|----------|
| Blank | 92W max, Pass LPS with a narrower output adjustable range | In stock |
| N     | 100W max, Non-LPS with a wider output adjustable range    | In stock |

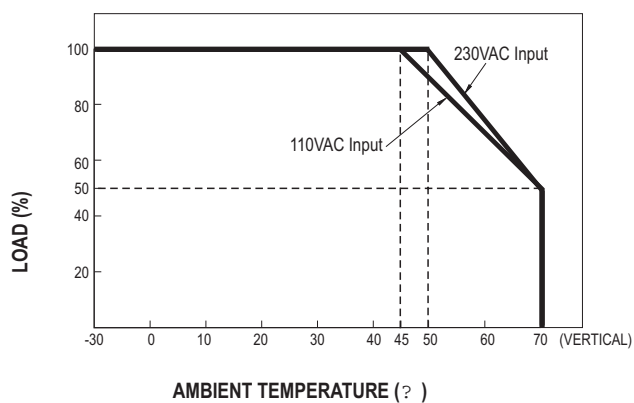
## SPECIFICATION

| MODEL                    |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HDR-100-12                                                                                                                                                                                                                                                                                                          | HDR-100-12N | HDR-100-15                 | HDR-100-15N              | HDR-100-24                        | HDR-100-24N                                                                    | HDR-100-48   | HDR-100-48N |
|--------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------|--------------------------|-----------------------------------|--------------------------------------------------------------------------------|--------------|-------------|
| OUTPUT                   | DC VOLTAGE                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12V                                                                                                                                                                                                                                                                                                                 |             | 15V                        |                          | 24V                               |                                                                                | 48V          |             |
|                          | RATED CURRENT                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 7.1A                                                                                                                                                                                                                                                                                                                | 7.5A        | 6.13A                      | 6.5A                     | 3.83A                             | 4.2A                                                                           | 1.92A        | 2.1A        |
|                          | CURRENT RANGE                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 ~ 7.1A                                                                                                                                                                                                                                                                                                            | 0 ~ 7.5A    | 0 ~ 6.13A                  | 0 ~ 6.5A                 | 0 ~ 3.83A                         | 0 ~ 4.2A                                                                       | 0 ~ 1.92A    | 0 ~ 2.1A    |
|                          | RATED POWER                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 85.2W                                                                                                                                                                                                                                                                                                               | 90W         | 92W                        | 97.5W                    | 92W                               | 100.8W                                                                         | 92.2W        | 100.8W      |
|                          | RIPPLE & NOISE (max.) Note.2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 120mVp-p                                                                                                                                                                                                                                                                                                            |             | 120mVp-p                   |                          | 150mVp-p                          |                                                                                | 240mVp-p     |             |
|                          | VOLTAGE ADJ. RANGE           | Pass LPS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 12 ~ 13V                                                                                                                                                                                                                                                                                                            |             | 15 ~ 17V                   |                          | 24 ~ 25.5V                        |                                                                                | 48 ~ 48.7V   |             |
|                          |                              | Non LPS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 12~ 13.8V                                                                                                                                                                                                                                                                                                           |             | 13.5 ~ 18V                 |                          | 21.6 ~ 29V                        |                                                                                | 43.2 ~ 55.2V |             |
|                          | VOLTAGE TOLERANCE Note.3     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ± 2.0%                                                                                                                                                                                                                                                                                                              |             | ± 1.0%                     |                          | ± 1.0%                            |                                                                                | ± 1.0%       |             |
|                          | LINE REGULATION              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ± 1.0%                                                                                                                                                                                                                                                                                                              |             | ± 1.0%                     |                          | ± 1.0%                            |                                                                                | ± 1.0%       |             |
|                          | LOAD REGULATION              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ± 1.0%                                                                                                                                                                                                                                                                                                              |             | ± 1.0%                     |                          | ± 1.0%                            |                                                                                | ± 1.0%       |             |
|                          | SETUP, RISE TIME             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 500ms, 60ms/230VAC                                                                                                                                                                                                                                                                                                  |             |                            |                          | 500ms, 60ms/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.)            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 88%                                                                                                                                                                                                                                                                                                                 |             | 89%                        |                          | 90%                               |                                                                                | 90%          |             |
|                          | AC CURRENT (Typ.)            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3A/115VAC                                                                                                                                                                                                                                                                                                           |             | 1.6A/230VAC                |                          |                                   |                                                                                |              |             |
|                          | INRUSH CURRENT (Typ.)        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | COLD START 35A/115VAC                                                                                                                                                                                                                                                                                               |             |                            |                          | 70A/230VAC                        |                                                                                |              |             |
| PROTECTION               | OVERLOAD                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HDR-100 : 102 ~ 110% rated output power ; HDR-100-xxN : 105 ~ 150% rated output power<br>Hiccup mode when output voltage <50%, recovers automatically after fault condition is removed<br>Constant current limiting within 50% ~ 100% rated output voltage, recovers automatically after fault condition is removed |             |                            |                          |                                   |                                                                                |              |             |
|                          | OVER VOLTAGE                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 14.2 ~ 16.2V                                                                                                                                                                                                                                                                                                        |             | 18.8 ~ 22.5V               |                          | 30 ~ 36V                          |                                                                                | 56.5 ~ 64.8V |             |
| 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<br>(Note 5) | SAFETY STANDARDS             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | UL62368-1, UL508, TUV EN61558-2-16, IEC62368-1, EAC TP TC 004, BSMI CNS14336-1 approved; Design refer to TUV EN62368-1                                                                                                                                                                                              |             |                            |                          |                                   |                                                                                |              |             |
|                          | 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 (Note 5)                                                                                                                                                                                                                                                                                           |             | EN61000-3-2                |                          |                                   | Class A                                                                        |              |             |
|                          |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Voltage Flicker                                                                                                                                                                                                                                                                                                     |             | EN61000-3-3                |                          |                                   | -----                                                                          |              |             |
|                          | EMC IMMUNITY                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | EN55024, 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                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 856.5K hrs min. MIL-HDBK-217F (25℃)                                                                                                                                                                                                                                                                                 |             |                            |                          |                                   |                                                                                |              |             |
|                          | DIMENSION                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 70*90*54.5mm (W*H*D)                                                                                                                                                                                                                                                                                                |             |                            |                          |                                   |                                                                                |              |             |
|                          | PACKING                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.27Kg; 48pcs/14Kg/1.06CUFT                                                                                                                                                                                                                                                                                         |             |                            |                          |                                   |                                                                                |              |             |
| 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 0.1μf & 47μf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. Harmonic current test at 90% load for HDR-100-xxN.<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> )<br>6. 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).<br>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a> |                                                                                                                                                                                                                                                                                                                     |             |                            |                          |                                   |                                                                                |              |             |

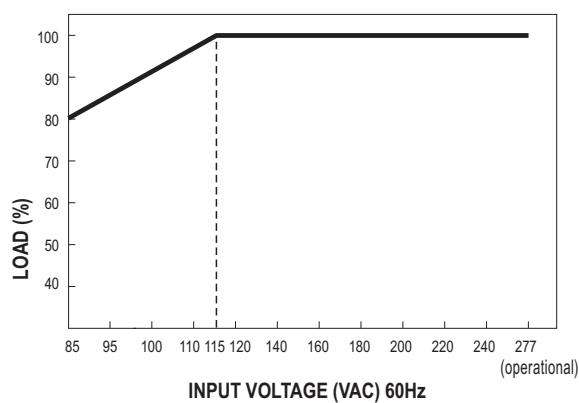
## Block Diagram



## Derating Curve VS Ambient Temperature

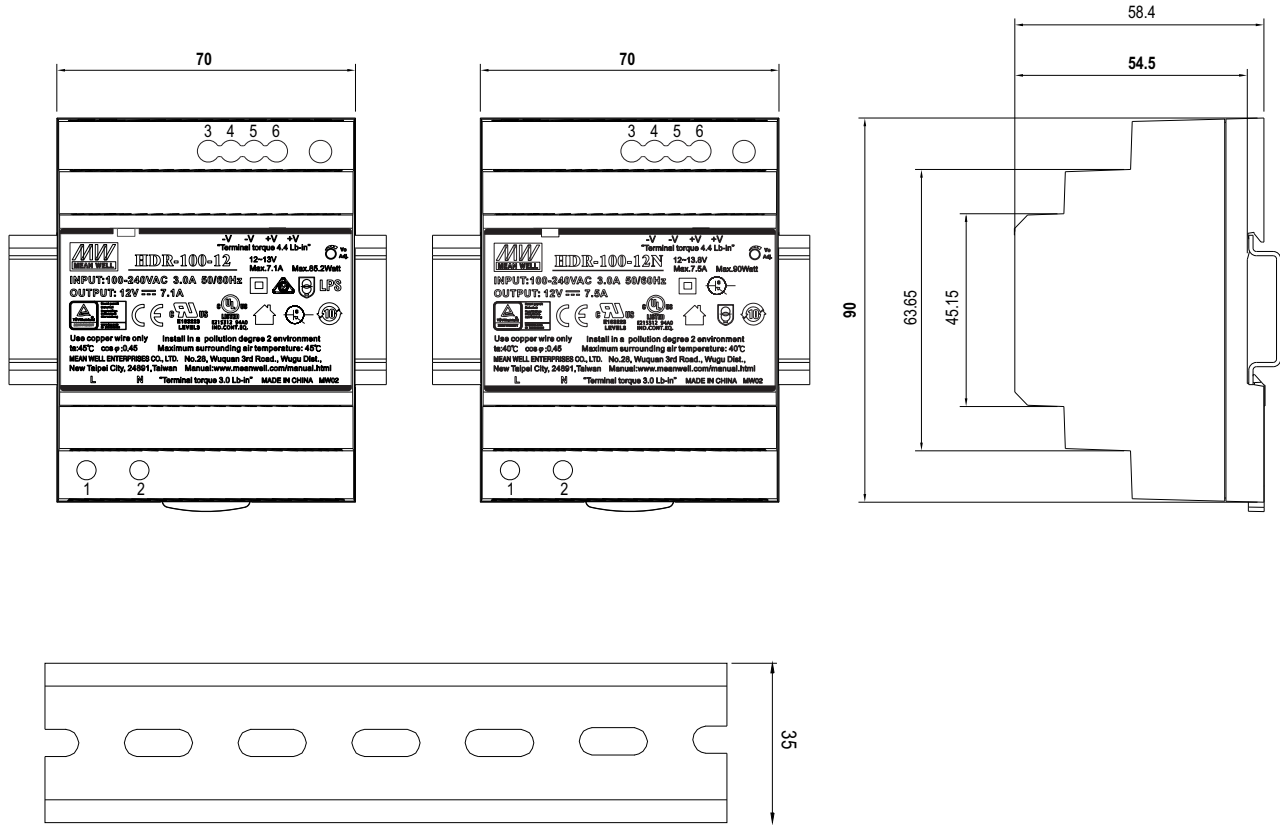


## Output Derating VS Input Voltage



## 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       | AC/L       | 3,4     | -V         |
| 2       | AC/N       | 5,6     | +V         |

## Installation Manual

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