



### 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. It is equipped with constant current mode for over-load protection, fitting various inductive or capacitive applications. The complete protection functions and relevant certificates for home automations and industrial control apparatus (IEC60950-1, UL508, UL60950-1, EN61558-2-16) make HDR-100 a very competitive power supply solution for household and industrial applications.

### Model Encoding

HDR - 100 - 12 N

Performance difference

Output voltage

Rated wattage

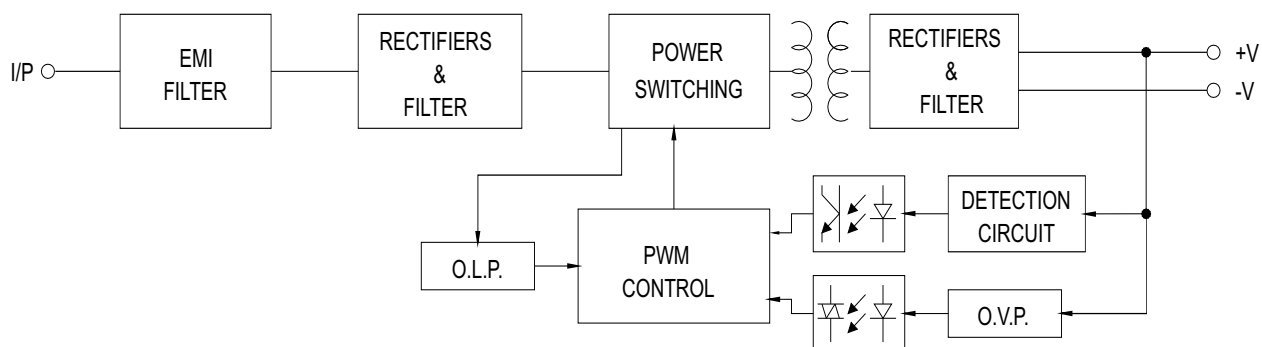
Series name

| 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 |

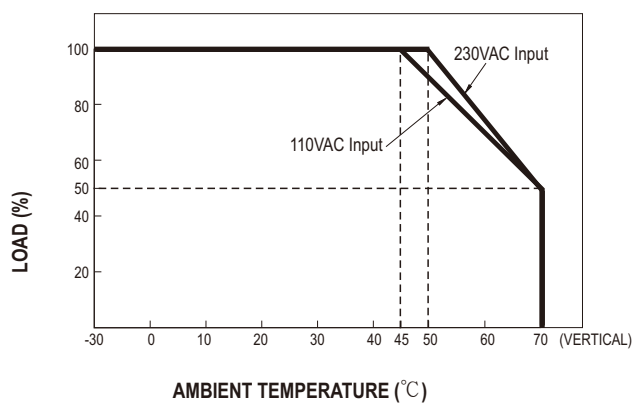
## SPECIFICATION

| 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.) <small>Note.2</small> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 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 <small>Note.3</small>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ± 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 <small>Note.4</small>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HDR-100 : 102 ~ 110% rated output power ; HDR-100-xxN : 105 ~ 150% rated output power<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | OVER VOLTAGE                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 14.2 ~ 16.2V                                                                                                                                                                                  |                                 | 18.8 ~ 22.5V                       |                                                                              | 30 ~ 36V                                           |            | 56.5 ~ 64.8V          |
|                                         |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Protection type : Shut down o/p voltage, re-power on to recover                                                                                                                               |                                 |                                    |                                                                              |                                                    |            |                       |
| ENVIRONMENT                             | WORKING TEMP.                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -30 ~ +70°C (Refer to "Derating Curve")                                                                                                                                                       |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | WORKING HUMIDITY                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 ~ 90% RH non-condensing                                                                                                                                                                    |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | STORAGE TEMP., HUMIDITY                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -40 ~ +85°C, 10 ~ 95% RH non-condensing                                                                                                                                                       |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | TEMP. COEFFICIENT                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ± 0.03%/°C (0 ~ 50°C) RH non-condensing                                                                                                                                                       |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | VIBRATION                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6                                                                                 |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | OPERATING ALTITUDE                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2000 meters                                                                                                                                                                                   |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | OVER VOLTAGE CATEGORY                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | III ; According to EN61558, EN50178, EN60664-1, EN62477-1 ; altitude up to 2000 meters                                                                                                        |                                 |                                    |                                                                              |                                                    |            |                       |
| SAFETY & EMC<br><small>(Note 6)</small> | SAFETY STANDARDS                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | UL60950-1, UL508, TUV EN61558-2-16, IEC60950-1, EAC TP TC 004, BSMI CNS14336-1 approved; Design refer to TUV EN60950-1                                                                        |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | WITHSTAND VOLTAGE                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | I/P-O/P:4KVAC                                                                                                                                                                                 |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | ISOLATION RESISTANCE                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH                                                                                                                                                    |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | EMC EMISSION                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Parameter                                                                                                                                                                                     |                                 | Standard                           |                                                                              | Test Level / Note                                  |            |                       |
|                                         |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Conducted                                                                                                                                                                                     |                                 | EN55032(CISPR32), CNS13438         |                                                                              | Class B                                            |            |                       |
|                                         |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Radiated                                                                                                                                                                                      |                                 | EN55032(CISPR32), CNS13438         |                                                                              | Class B                                            |            |                       |
|                                         |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Harmonic Current (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°C)                                                                                                                                                       |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | DIMENSION                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 70*90*54.5mm (W*H*D)                                                                                                                                                                          |                                 |                                    |                                                                              |                                                    |            |                       |
|                                         | PACKING                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0.27Kg; 48pcs/14Kg/1.10CUFT                                                                                                                                                                   |                                 |                                    |                                                                              |                                                    |            |                       |
| NOTE                                    |                                             | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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. Constant current limiting operation within 50% ~100% rated output voltage; protection type for short circuit is hiccup mode,it will recover automatically after fault condition is removed.<br>5. Harmonic current test at 90% load for HDR-100-xxN.<br>6. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."<br>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> )<br>7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). |                                                                                                                                                                                               |                                 |                                    |                                                                              |                                                    |            |                       |

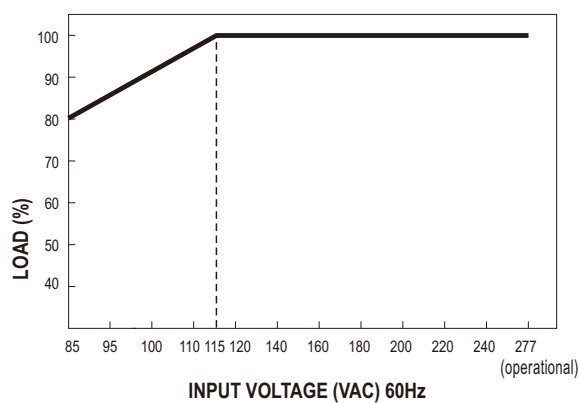
## Block Diagram



## Derating Curve VS Ambient Temperature

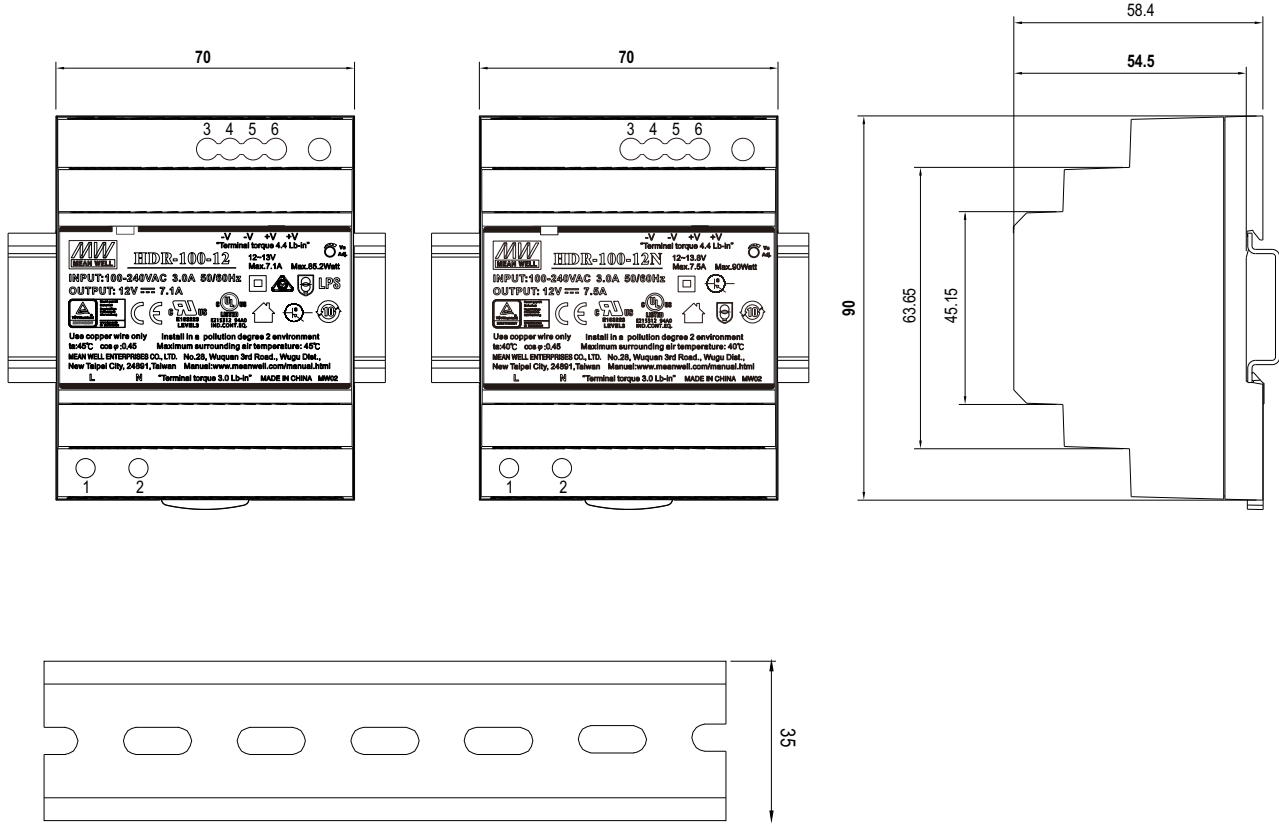


## Output Derating VS Input Voltage



## 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>