



## ■ Features

- Universal AC input / Full range
- Withstand 300VAC surge input for 5 second
- No load power consumption<0.2W
- Miniature size and 1U low profile
- High operating temperature up to 70°C
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Compliance to IEC/EN 60335-1(PD3) and IEC/EN61558-1, -2-16 for household appliances
- Operating altitude up to 5000 meters (Note.8)
- Withstand 5G vibration test
- High efficiency, long life and high reliability
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty

## ■ Applications

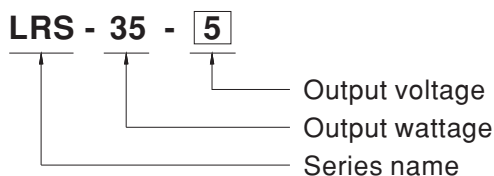
- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus
- Household appliances

## ■ Description

LRS-35 series is a 35W single-output enclosed type power supply with 30mm of low profile design. Adopting the full range 85~264VAC input, the entire series provides an output voltage line of 5V, 12V, 15V, 24V, 36V and 48V.

In addition to the high efficiency up to 89%, the design of metallic mesh case enhances the heat dissipation of LRS-35 that the whole series operates from -30°C through 70°C under air convection without a fan. Delivering an extremely low no load power consumption (less than 0.2W), it allows the end system to easily meet the worldwide energy requirement. LRS-35 has the complete protection functions and 5G anti-vibration capability; it is complied with the international safety regulations such as TUV EN60950-1, EN60335-1, EN61558-1/-2-16, UL60950-1 and GB4943. LRS-35 series serves as a high price-to-performance power supply solution for various industrial applications.

## ■ Model Encoding

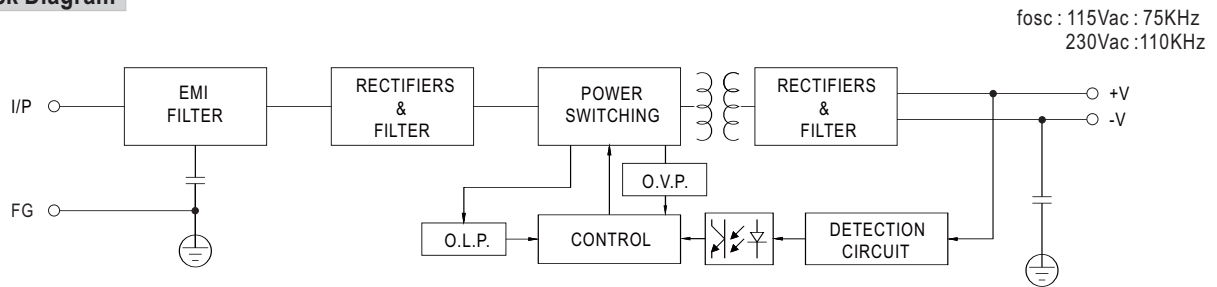




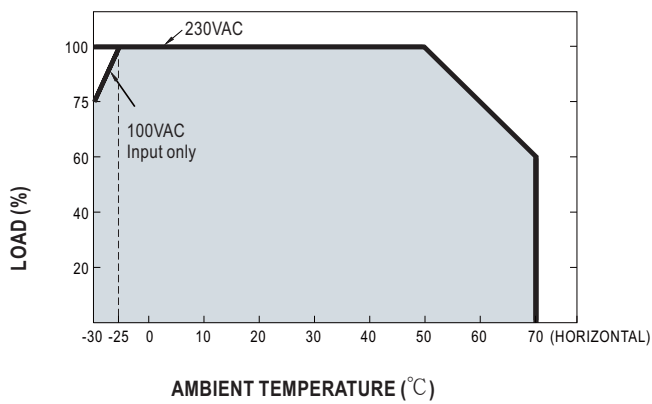
## SPECIFICATION

| MODEL                 |                              | LRS-35-5                                                                                                                | LRS-35-12    | LRS-35-15      | LRS-35-24    | LRS-35-36    | LRS-35-48    |
|-----------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------|----------------|--------------|--------------|--------------|
| OUTPUT                | DC VOLTAGE                   | 5V                                                                                                                      | 12V          | 15V            | 24V          | 36V          | 48V          |
|                       | RATED CURRENT                | 7A                                                                                                                      | 3A           | 2.4A           | 1.5A         | 1A           | 0.8A         |
|                       | CURRENT RANGE                | 0 ~ 7A                                                                                                                  | 0 ~ 3A       | 0 ~ 2.4A       | 0 ~ 1.5A     | 0 ~ 1A       | 0 ~ 0.8A     |
|                       | RATED POWER                  | 35W                                                                                                                     | 36W          | 36W            | 36W          | 36W          | 38.4W        |
|                       | RIPPLE & NOISE (max.) Note.2 | 80mVp-p                                                                                                                 | 120mVp-p     | 120mVp-p       | 150mVp-p     | 200mVp-p     | 200mVp-p     |
|                       | VOLTAGE ADJ. RANGE           | 4.5 ~ 5.5V                                                                                                              | 10.2 ~ 13.8V | 13.5 ~ 18V     | 21.6 ~ 28.8V | 32.4 ~ 39.6V | 43.2 ~ 52.8V |
|                       | VOLTAGE TOLERANCE Note.3     | ±2.0%                                                                                                                   | ±1.0%        | ±1.0%          | ±1.0%        | ±1.0%        | ±1.0%        |
|                       | LINE REGULATION Note.4       | ±0.5%                                                                                                                   | ±0.5%        | ±0.5%          | ±0.5%        | ±0.5%        | ±0.5%        |
|                       | LOAD REGULATION Note.5       | ±1.0%                                                                                                                   | ±0.5%        | ±0.5%          | ±0.5%        | ±0.5%        | ±0.5%        |
|                       | SETUP, RISE TIME             | 1000ms, 30ms/230VAC      2000ms, 30ms/115VAC at full load                                                               |              |                |              |              |              |
|                       | HOLD UP TIME (Typ.)          | 30ms/230VAC      12ms/115VAC at full load                                                                               |              |                |              |              |              |
| INPUT                 | VOLTAGE RANGE                | 85 ~ 264VAC      120 ~ 373VDC                                                                                           |              |                |              |              |              |
|                       | FREQUENCY RANGE              | 47 ~ 63Hz                                                                                                               |              |                |              |              |              |
|                       | EFFICIENCY (Typ.)            | 82%                                                                                                                     | 86%          | 86%            | 88%          | 88%          | 89%          |
|                       | AC CURRENT (Typ.)            | 0.7A/115VAC      0.42A/230VAC                                                                                           |              |                |              |              |              |
|                       | INRUSH CURRENT (Typ.)        | COLD START 45A/230VAC                                                                                                   |              |                |              |              |              |
|                       | LEAKAGE CURRENT              | <0.75mA / 240VAC                                                                                                        |              |                |              |              |              |
| PROTECTION            | OVER LOAD                    | 110 ~ 150% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |              |                |              |              |              |
|                       | OVER VOLTAGE                 | 5.75 ~ 6.9V                                                                                                             | 13.8 ~ 16.2V | 18.75 ~ 21.75V | 28.8 ~ 33.6V | 41.4 ~ 48.6V | 55.2 ~ 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                                                                                                |              |                |              |              |              |
|                       | TEMP. COEFFICIENT            | ±0.03%/°C (0 ~ 50°C)                                                                                                    |              |                |              |              |              |
|                       | VIBRATION                    | 10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes                                                            |              |                |              |              |              |
| SAFETY & EMC (Note 9) | SAFETY STANDARDS             | UL60950-1, TUV EN60950-1, EN60335-1, EN61558-1/-2-16, CCC GB4943 approved                                               |              |                |              |              |              |
|                       | WITHSTAND VOLTAGE            | I/P-O/P:3.75KVAC    I/P-FG:2KVAC    O/P-FG:1.25KVAC                                                                     |              |                |              |              |              |
|                       | ISOLATION RESISTANCE         | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH                                                              |              |                |              |              |              |
|                       | EMC EMISSION                 | Compliance to EN55022 (CISPR22), GB9254 Class B, EN55014, EN61000-3-2,-3                                                |              |                |              |              |              |

## Block Diagram



## Derating Curve



## Static Characteristics

