



■ 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/BS EN/EN 60335-1(PD3) and IEC/BS EN/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
- Over voltage category III
- 100% full load burn-in test
- 3 years warranty

■ Description

LRS-50 series is a 50W 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 3.3V, 5V, 12V, 15V, 24V, 36V and 48V.

In addition to the high efficiency up to 90%, the design of metallic mesh case enhances the heat dissipation of LRS-50 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-50 has the complete protection functions and 5G anti-vibration capability; it is complied with the international safety regulations such as TUV BS EN/EN62368-1, BS EN/EN60335-1, BS EN/EN61558-1/-2-16, UL62368-1 and GB4943. LRS-50 series serves as a high price-to-performance power supply solution for various industrial applications.

■ Model Encoding

LRS - 50 - 3.3



■ Applications

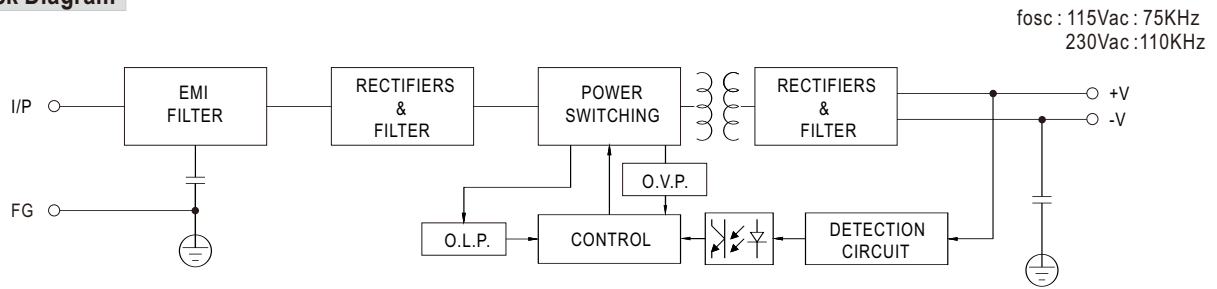
- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus
- Household appliances



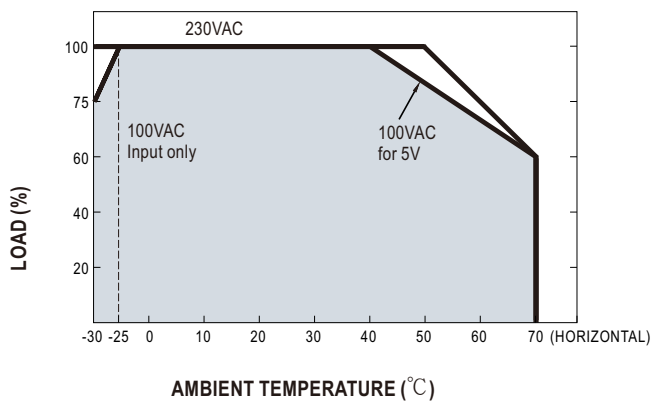
SPECIFICATION

| MODEL | | LRS-50-3.3 | LRS-50-5 | LRS-50-12 | LRS-50-15 | LRS-50-24 | LRS-50-36 | LRS-50-48 |
|-----------------------|--|--|------------|--------------|----------------|--------------|--------------|--------------|
| OUTPUT | DC VOLTAGE | 3.3V | 5V | 12V | 15V | 24V | 36V | 48V |
| | RATED CURRENT | 10A | 10A | 4.2A | 3.4A | 2.2A | 1.45A | 1.1A |
| | CURRENT RANGE | 0 ~ 10A | 0 ~ 10A | 0 ~ 4.2A | 0 ~ 3.4A | 0 ~ 2.2A | 0 ~ 1.45A | 0 ~ 1.1A |
| | RATED POWER | 33W | 50W | 50.4W | 51W | 52.8W | 52.2W | 52.8W |
| | RIPPLE & NOISE (max.) Note.2 | 80mVp-p | 80mVp-p | 120mVp-p | 120mVp-p | 150mVp-p | 200mVp-p | 200mVp-p |
| | VOLTAGE ADJ. RANGE | 2.97 ~ 3.6V | 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 | ±3.0% | ±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% | ±0.5% |
| | LOAD REGULATION Note.5 | ±2.0% | ±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.) | 80% | 83% | 86% | 88% | 88% | 89% | 90% |
| | AC CURRENT (Typ.) | 0.95A/115VAC 0.56A/230VAC | | | | | | |
| | INRUSH CURRENT (Typ.) | COLD START 45A/230VAC | | | | | | |
| | LEAKAGE CURRENT | <0.75mA / 240VAC | | | | | | |
| PROTECTION | OVER LOAD | 110 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | |
| | OVER VOLTAGE | 3.8 ~ 4.45V | 5.9~ 7.3V | 13.8 ~ 16.2V | 18.75 ~ 21.75V | 28.8 ~ 33.6V | 41.4 ~ 48.6V | 55.2 ~ 64.8V |
| 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) | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | | |
| | OVER VOLTAGE CATEGORY | III; Compliance to BS EN/EN61558, BS EN/EN50178, BS EN/EN60664-1, BS EN/EN62477-1; altitude up to 2000 meters | | | | | | |
| SAFETY & EMC (Note 9) | SAFETY STANDARDS | UL62368-1, TUV BS EN/EN62368-1, BS EN/EN60335-1, BS EN/EN61558-1/-2-16,CCC GB4943.1, BSMI CNS14336-1, EAC TP TC 004, AS/NZS 60950.1(by CB),KC K60950-1(for LRS-50-12/24 only), BIS IS13252(Part1): 2010/IEC 60950-1: 2005 approved | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:4KVAC 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 BS EN/EN55032 (CISPR32) Class B, BS EN/EN55014, BS EN/EN61000-3-2,-3, GB/T 9254, BSMI CNS13438, EAC TP TC 020,KC KN32,KN35(for LRS-50-12/24 only) | | | | | | |
| OTHERS | EMC IMMUNITY | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61000-6-2 (BS EN/EN50082-2), heavy industry level, criteria A, EAC TP TC 020,KC KN32,KN35(for LRS-50-12/24 only) | | | | | | |
| | MTBF | 645K hrs min. MIL-HDBK-217F (25°C) | | | | | | |
| | DIMENSION | 99*82*30mm (L*W*H) | | | | | | |
| | PACKING | 0.23Kg; 60pcs/14.8Kg/0.88CUFT | | | | | | |
| NOTE | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Line regulation is measured from low line to high line at rated load.</p> <p>5. Load regulation is measured from 0% to 100% rated load.</p> <p>6. Length of set up time is measured at cold first start. Turning ON/OFF the power supply very quickly may lead to increase of the set up time.</p> <p>7. 3.3V,5V when the load factor 0~50%, the switching power less is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.</p> <p>8. The ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m(6500ft).</p> <p>9. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p> | | | | | | | |

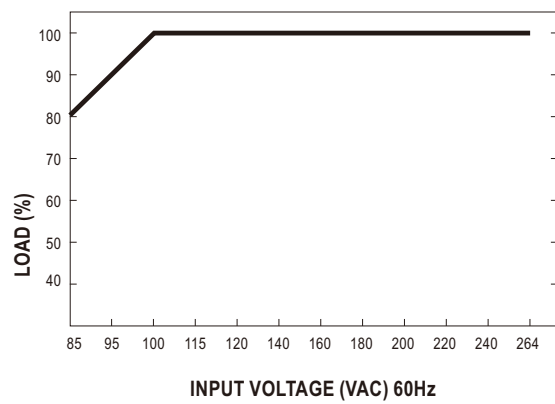
■ Block Diagram



■ Derating Curve

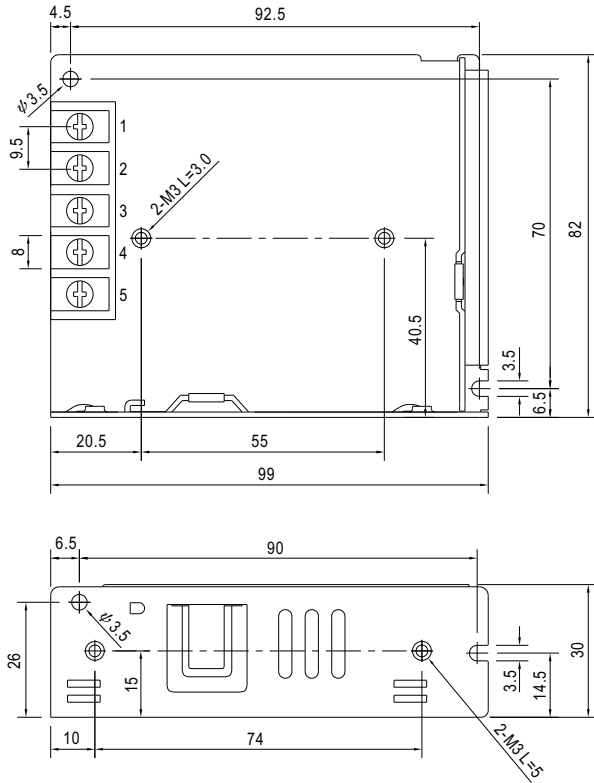


■ Static Characteristics



■ Mechanical Specification

Case No.239A Unit:mm



Terminal Pin No. Assignment

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|--------------|
| 1 | AC/L | 4 | DC OUTPUT -V |
| 2 | AC/N | 5 | DC OUTPUT +V |
| 3 | FG \perp | | |

■ Installation Manual

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