



### ■ Features

- Universal AC input / Full range
- Withstand 300VAC surge input for 5 second
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Miniature size and 1U low profile
- Compliance to IEC/EN 60335-1 (PD3) and IEC/EN61558-1, 2-16 for household appliances
- Operating altitude up to 5000 meters (Note.7)
- Withstand 5G vibration test
- LED indicator for power on
- No load power consumption<0.3W
- Over voltage category III
- 100% full load burn-in test
- High operating temperature up to 70°C
- High efficiency, long life and high reliability
- 3 years warranty

### ■ Applications

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

### ■ Description

LRS-100 series is a 100W 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 91%, the design of metallic mesh case enhances the heat dissipation of LRS-100 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 0.3W), it allows the end system to easily meet the worldwide energy requirement. LRS-100 has the complete protection functions and 5G anti-vibration capability, it is complied with the international safety regulations such as TUV EN2368-1 , EN60335-1 ,EN61 558-1/-2-16, UL62368-1 and GB4943. LRS-100 series serves as a high price-to-performance power supply solution for various industrial applications.

### ■ Model Encoding

**LRS - 100 - 3.3**

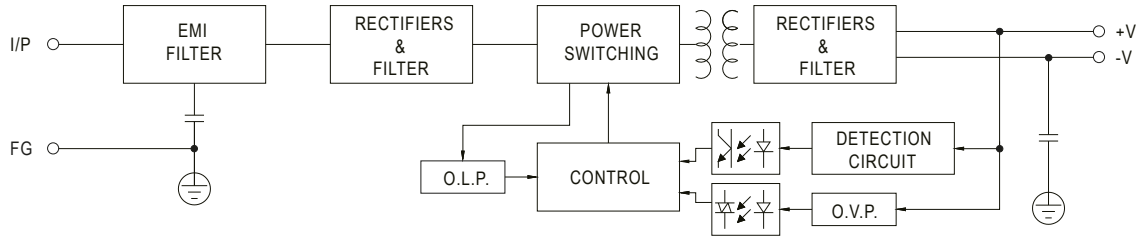
Output voltage  
Rated wattage  
Series name

**SPECIFICATION**

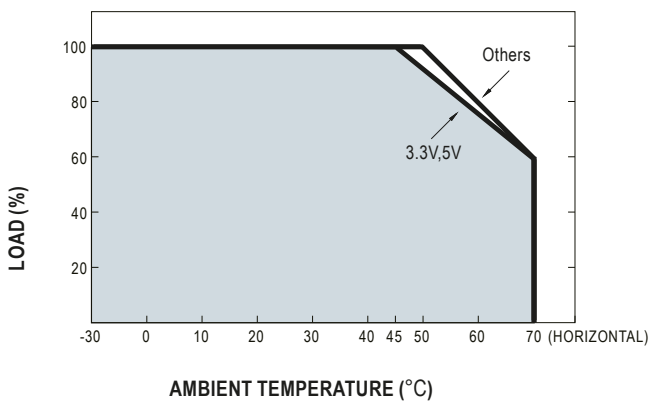
MODEL		LRS-100-3.3	LRS-100-5	LRS-100-12	LRS-100-15	LRS-100-24	LRS-100-36	LRS-100-48
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V	24V	36V	48V
	RATED CURRENT	20A	18A	8.5A	7A	4.5A	2.8A	2.3A
	CURRENT RANGE	0 ~ 20A	0 ~ 18A	0 ~ 8.5A	0 ~ 7A	0 ~ 4.5A	0 ~ 2.8A	0 ~ 2.3A
	RATED POWER	66W	90W	102W	105W	108W	100.8W	110.4W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	100mVp-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	500ms, 30ms/230VAC      500ms,30ms/115VAC at full load						
HOLD UP TIME (Typ.)	55ms/230VAC      10ms/115VAC at full load							
INPUT	VOLTAGE RANGE	85 ~ 264VAC      120 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)						
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY (Typ.)	84.5%	86%	88%	88.5%	90%	90.5%	91%
	AC CURRENT (Typ.)	1.9A/115VAC      1.2A/230VAC						
	INRUSH CURRENT (Typ.)	COLD START 50A/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	5.75 ~ 6.75V	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 EN61558, EN50178, EN60664-1, EN62477-1; altitude up to 2000 meters						
SAFETY & EMC (Note 8)	SAFETY STANDARDS	UL6 2368-1 , TUV EN62368-1, EN60335-1, EN61558-1/-2-16, CCC GB4943.1, BSMI CNS14336-1, EAC TP TC 004, AS/NZS62368.1 (by CB), KC K60950-1 (for LRS-100-12/24 only) 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 EN55032 (CISPR32) Class B, EN55014, EN61000-3-2,-3, GB/T 9254, BSMI CNS13438, EAC TP TC 020, KC KN32,KN35(for LRS-100-12/24 only)						
EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61000-6-2 (EN50082-2), heavy industry level, criteria A, EAC TP TC 020, KC KN32,KN35(for LRS-100-12/24 only)							
OTHERS	MTBF	720.6K hrs min.    MIL-HDBK-217F (25°C)						
	DIMENSION	129*97*30mm (L*W*H)						
	PACKING	0.34Kg ; 40pcs/14.6Kg/0.92CUFT						
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 &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 uf &amp; 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. The ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m(6500ft).</p> <p>8. 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 1 mm 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."</p>							

■ Block Diagram

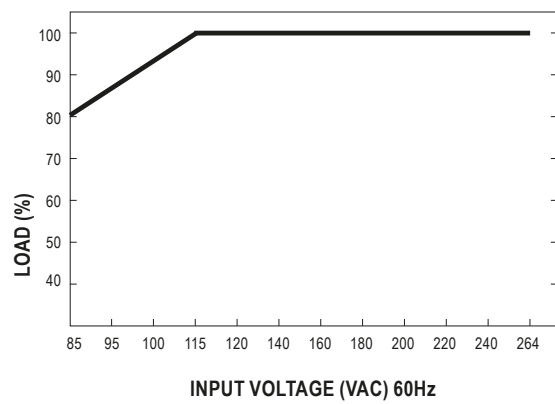
fosc : 65KHz



■ Derating Curve

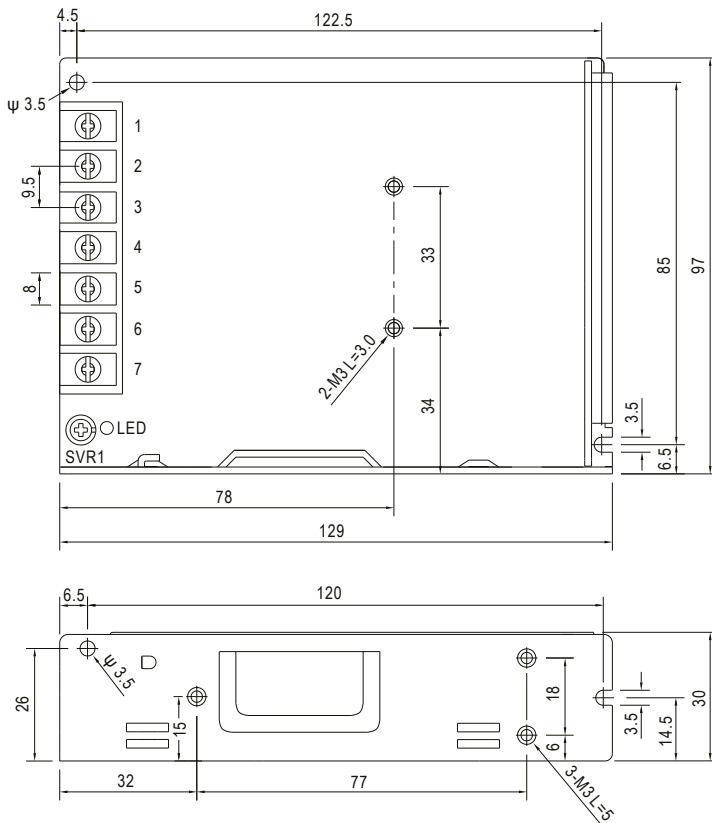


■ Static Characteristics



■ Mechanical Specification

Case No.238A Unit:mm



Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4,5	DC OUTPUT -V
2	AC/N	6,7	DC OUTPUT +V
3	FG $\perp$		