



MEAN WELL LRS-100 100W Single Output Switching Power Supply User Manual

[Home](#) » [MEAN WELL](#) » MEAN WELL LRS-100 100W Single Output Switching Power Supply User Manual 

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Contents

- [1 Features](#)
- [2 Applications](#)
- [3 Description](#)
- [4 Model Encoding](#)
- [5 SPECIFICATION](#)
- [6 Block Diagram](#)
- [7 Derating Curve](#)
- [8 Static Characteristics](#)
- [9 Mechanical Specification](#)
- [10 Installation Manual](#)
- [11 Documents / Resources](#)
 - [11.1 References](#)
- [12 Related Posts](#)

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/BS EN/EN 60335-1(PD3) and IEC/BS EN/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

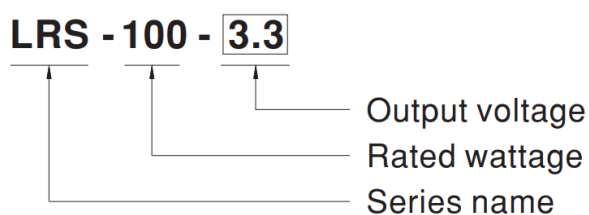
Description

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 antivibration capability; it is complied with the international safety regulations such as TUV BS EN/EN2368-1, BS EN/EN60335- 1,BS EN/EN61558- 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

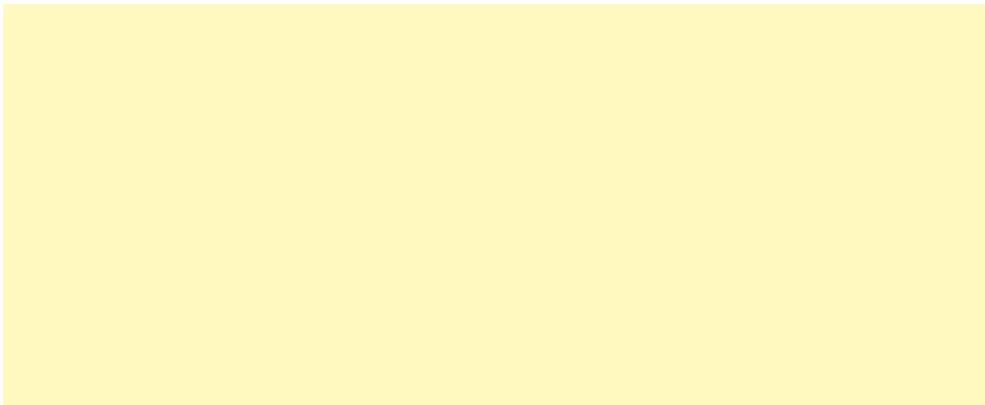


SPECIFICATION

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%

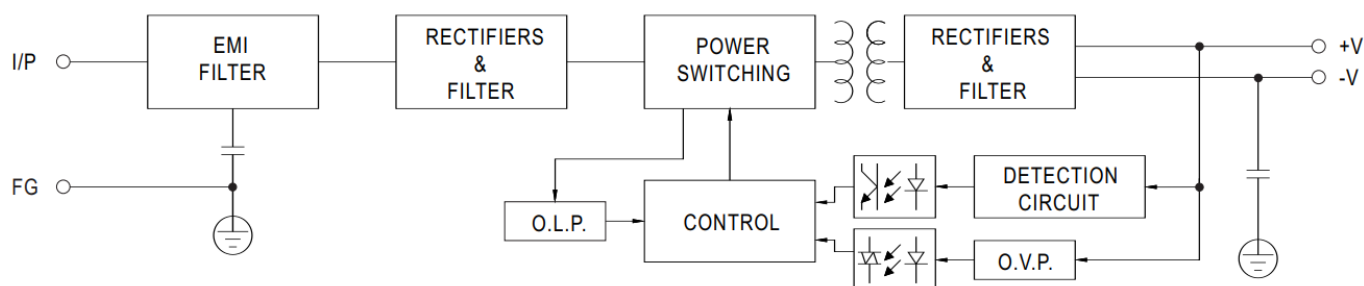
	SETUP, RISE TIME	500ms, 30ms/230VAC 500ms,30ms/115VAC at full load						
	HOLD UP TIME (Typ.)	55ms/230VAC 10ms/115VAC at full load						
INPUT	VOLTAGE RANGE	85 ~ 264VAC 120 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)						
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY (Typ.)	84.5%	86%	88%	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						
PROTECTI	OVER LOAD	110 ~ 150% rated output power						
		Protection type : Hiccup mode, recovers automatically after fault condition is removed						

ON	OVER VOLTAGE	3.8 ~ 4.4 5V	5.75 ~ 6. 75V	13.8 ~ 16 .2V	18.75 ~ 2 1.75V	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 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						

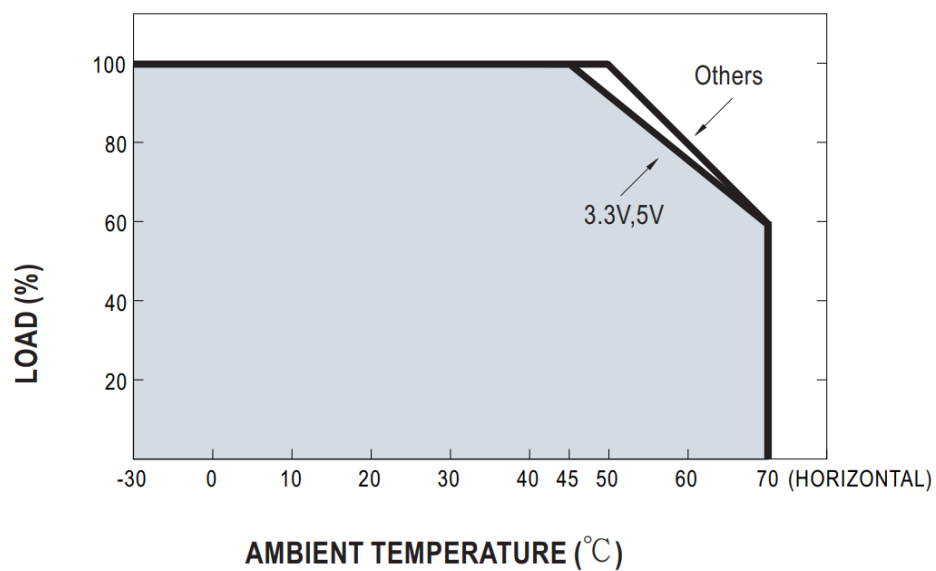
SAFETY & EMC (Note 8)	SAFETY STANDARDS	<p>UL 62368-1, TUV BS EN/EN62368-1, BS EN/EN60335-1, BS EN/EN61558-1/-2-16, CCC GB4943.1, BSMI CNS14336-1, EAC TP TC 004, S/NZS62368.1 (by CB), KC K60950-1 (for LRS-100-12/24 only), BIS IS13252 (Part1):</p>  <p>2010/IEC 60950-1: 2005 approved</p>
	WITHSTAND VOLTAGE	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/EN 61000-3-2,-3, GB/T 9254, BSMI CNS13438, EAC TP TC 020, KC KN32, KN35 (for LRS-100-12/24 only)
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61000-6-2 (BS EN/EN 50082-2), heavy industry level, criteria A, EAC TP TC 020, KC KN32, KN35 (for LRS-100-12/24 only)
	MTBF	720.6K hrs min. MIL-HDBK-217F (25°C)

OTHERS	DIMENSION	129*97*30mm (L*W*H)
	PACKING	0.34Kg ; 40pcs/14.6Kg/0.92CUFT
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Line regulation is measured from low line to high line at rated load. 5. Load regulation is measured from 0% to 100% rated load. 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. 7. The ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000 m(6500ft). 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 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>❖ Product Liability Disclaimer For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>	

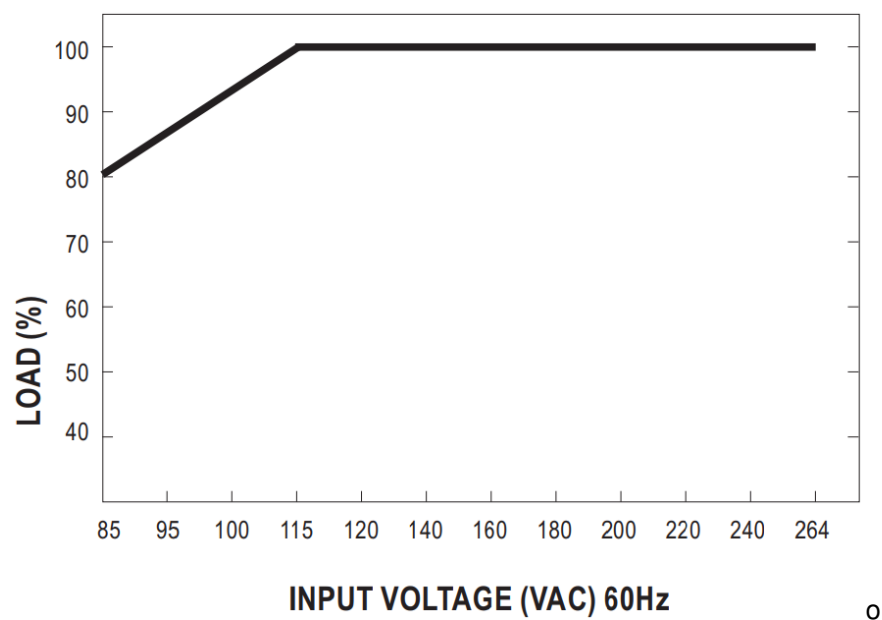
Block Diagram



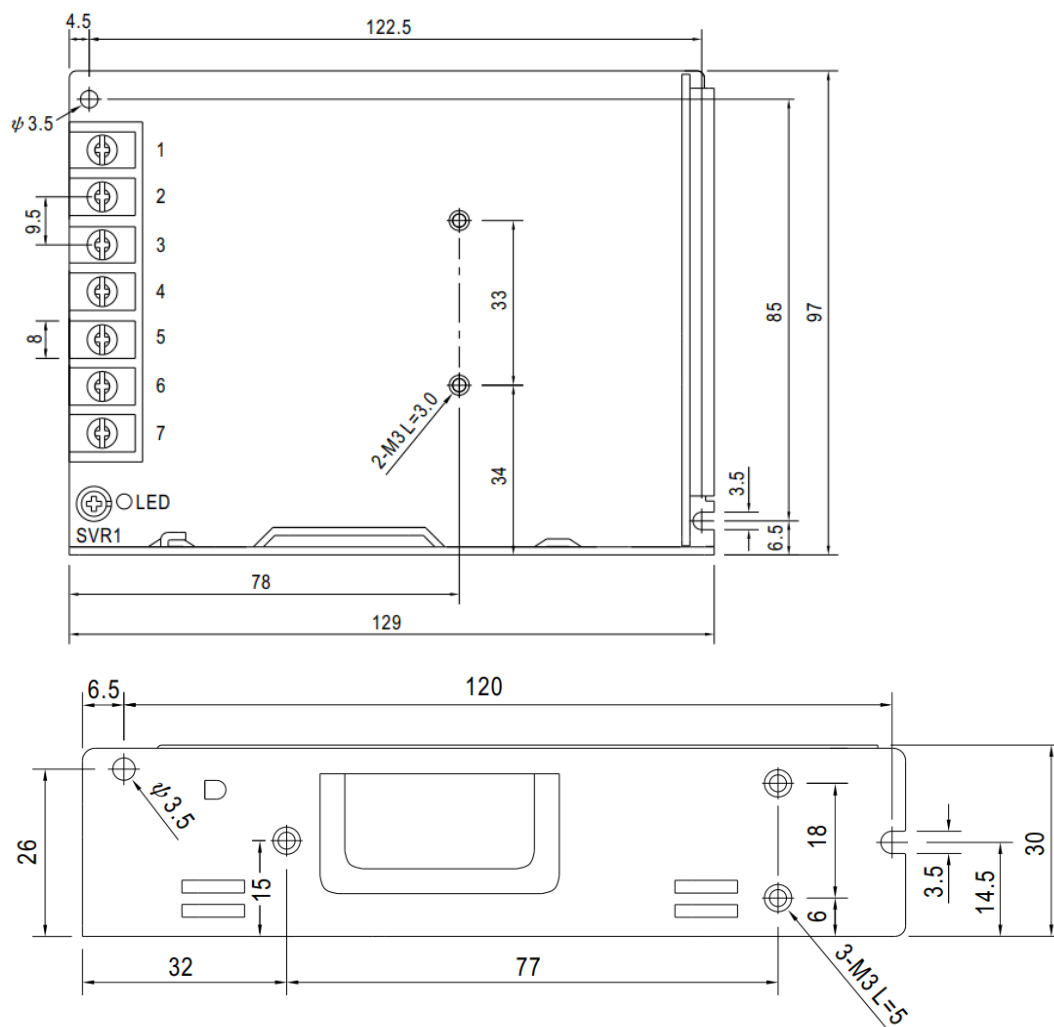
Derating Curve




Static Characteristics



Mechanical Specification



Terminal Pin No. Assignment



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 		

Installation Manual

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



Documents / Resources

	<p>MEAN WELL LRS-100 100W Single Output Switching Power Supply [pdf] User Manual LRS-100, Switching, Power Supply, Single Output</p>
	<p>MEAN WELL LRS-100 100W Single Output Switching Power Supply [pdf] Instruction Manual LRS-100, 100W Single Output Switching Power Supply, Output Switching Power Supply, Switching Power Supply, LRS-100, Power Supply</p>

References

- [TÜV Rheinland - Home | US | TÜV Rheinland](#)
- [MEAN WELL Installation Manual-MEAN WELL Switching Power Supply Manufacturer](#)
- [MEAN WELL Product Liability Disclaimer-MEAN WELL Switching Power Supply Manufacturer](#)