

MEAN WELL LRS-450-5 Single Output Switching Power Supply



MEAN WELL LRS-450-5 Single Output Switching Power Supply Instruction Manual

[Home](#) » [MEAN WELL](#) » MEAN WELL LRS-450-5 Single Output Switching Power Supply Instruction Manual 

Contents

- [1 MEAN WELL LRS-450-5 Single Output Switching Power Supply](#)
- [2 Product Information](#)
- [3 Product Usage Instructions](#)
- [4 Features](#)
- [5 Description](#)
- [6 SPECIFICATION](#)
- [7 Block Diagram](#)
- [8 Mechanical Specification](#)
- [9 Documents / Resources](#)
 - [9.1 References](#)
- [10 Related Posts](#)



MEAN WELL LRS-450-5 Single Output Switching Power Supply



Product Information

Specifications

MODEL	DC VOLTAGE	RATED CURRENT	CURRENT RANGE	RATED POWER	RIPPLE & NOISE (max.)	OUTPUT SETUP, RISE TIME	HOLD UP TIME (Typ.)	VOLTAGE RANGE	FREQUENCY RANGE	EFFICIENCY (Typ.)
LR50-5	5V	75A	0 ~ 7.5A	375W	200mV p-p	1500ms, 50ms/230VAC 1500ms, 50ms/115VAC at full load	16ms/230VAC 12ms/115VAC at full load	90 ~ 132VAC / 180 ~ 264VAC by switch 255 ~ 370VDC (switch on 230VAC)	47 ~ 63Hz	87%
LR50-12	12V	37.5A	0 ~ 3.75A	450W	200mV p-p	1500ms, 50ms/230VAC 1500ms, 50ms/115VAC at full load	16ms/230VAC 12ms/115VAC at full load	90 ~ 132VAC / 180 ~ 264VAC by switch 255 ~ 370VDC (switch on 230VAC)	47 ~ 63Hz	90%

Product Usage Instructions

Installation:

Follow these steps to install the power supply:

- Ensure the power supply is disconnected from the power source.
- Mount the power supply securely in a well-ventilated area.
- Connect the input and output terminals correctly.

Powering On:

To power on the unit:

- Ensure all connections are secure.
- Connect the power supply to a compatible power source within the specified voltage range.
- Switch on the power supply using the designated switch.

Troubleshooting:

If you encounter any issues with the power supply, refer to the troubleshooting section of the user manual for guidance or contact customer support for assistance.

Frequently Asked Questions (FAQ)

- **Q: Can this power supply be used at high altitudes?**

A: Yes, this power supply can operate at altitudes up to 5000 meters.

- **Q: What is the efficiency of the LRS-450-15 model?**

A: The efficiency of the LRS-450-15 model is rated at 90%.



Features



- MEANWELL Patent Number: ZL202220241473.0
- AC input range selectable by switch
- Withstand 300VAC surge input for 5 second
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling
- Built-in cooling Fan ON-OFF control
- 1U low profile
- Withstand 5G vibration test
- High operating temperature up to 70°C
- Operating altitude up to 5000 meters (Note.10)
- 3 years warranty
- MTBF>1KK hrs

Applications

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

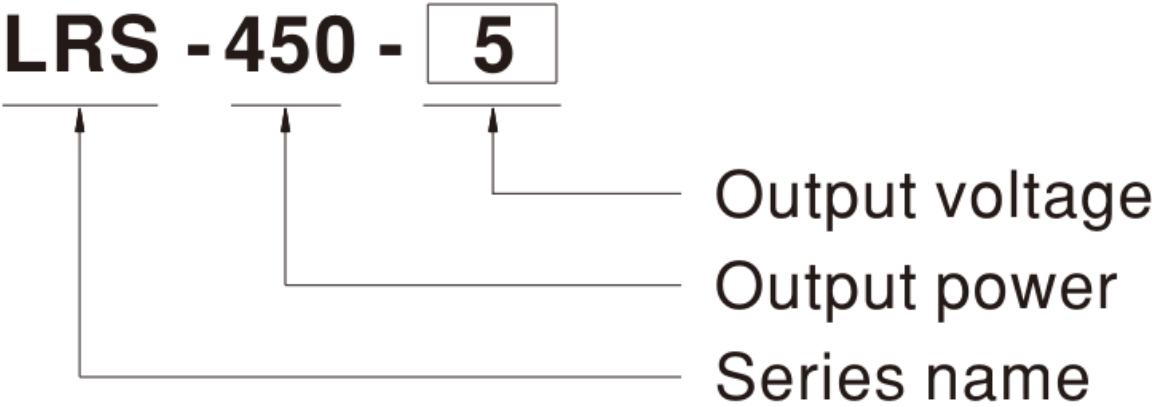
GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

Description

LRS-450 series is a 450W single-output enclosed type power supply with 35mm of low profile design. Adopting the input of 115VAC or 230VAC (select by switch), the entire series provides an output voltage line of 5V, 12V, 15V, 24V, 36V and 48V.In addition to the high efficiency up to 92%, with the built-in long-life fan LRS-450 can work under -20~+70°C with full load. LRS-450 has complete protection functions and 5G anti-vibration capability; It is complied with complete international safety regulations LRS-450 series serves as a high price-to-performance power supply solution for various industrial applications.

Model Encoding



SPECIFICATION

MODEL		LRS-450-5	LRS-450-12	LRS-450-15	LRS-450-24	LRS-450-36	LRS-450-48
OUTPUT	DC VOLTAGE	5V	12V	15V	24V	36V	48V
	RATED CURRENT	75A	37.5A	30A	18.8A	12.5A	9.4A
	CURRENT RANGE	0 ~ 75A	0 ~ 37.5A	0 ~ 30A	0 ~ 18.8A	0 ~ 12.5A	0 ~ 9.4A
	RATED POWER	375W	450W	450W	451.2W	450W	451.2W
	RIPPLE & NOISE (max.) Note.2	200mVp-p	200mVp-p	200mVp-p	240mVp-p	360mVp-p	360mVp-p
	VOLTAGE ADJ. RANGE Note.3	4.75 ~ 5.5V	11.4 ~ 13.2V	14.25 ~ 16.5V	22.8 ~ 26.4V	34.2 ~ 39.6V	45.6 ~ 52.8V

	VOLTAGE TOLERANCE Note.4	±2.0%	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION Note.5	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION Note.6	±2.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.7	1500ms, 50ms/230VAC 1500ms,50ms/115VAC at full load					
	HOLD UP TIME (Typ.)	16ms/230VAC 12ms/115VAC at full load					
INPUT	VOLTAGE RANGE Note.8	90 ~ 132VAC / 180 ~ 264VAC by switch 255 ~ 370VDC (with on 230VAC)					
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	87%	90%	90%	91%	92%	92%
	AC CURRENT (Typ.)	10A/115VAC 6A/230VAC					
	INRUSH CURRENT (Typ.)	35A/115VAC 60A/230VAC					
	LEAKAGE CURRENT	<2mA / 240VAC					
PROTECTION (Note.9)	OVERLOAD	105 ~ 150% rated output power					
		Constant current limiting, the unit will shut down after 3 sec. re-power on to recover					
	OVERVOLTAGE	5.75 ~ 6.75 V	13.8 ~ 16.2 V	18 ~ 21V	27.6 ~ 32.4 V	41.4 ~ 48.6 V	55.2 ~ 64.8 V
		Protection type: Shut down o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shut down the o/p voltage, and re-power on to recover					
FUNCTION	FAN ON/OFF CONTROL (Typ.)	RTH3≥50°C FAN ON, ≤40°C FAN OFF					
ENVIRONMENT	WORKING TEMP.	-20 ~ +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, and Z axes
	OVERVOLTAGE CATEGORY	III: According to EN61558, EN50178, EN60664-1, EN62477-1; altitude up to 2000 meters
SAFETY	SAFETY STANDARDS	BS IEC/UL 62368-1, EAC TP TC 004, KC62368-1(except for 5V), BIS IS13252(Part1):2010/IEC60950-1: 2005(except for 48V), BSMI CNS15598-1, GB 4943.1, BS EN/EN61558-1, BS EN/EN61558-2-16 approved, Designed by AS/NZS 61558.1/2.16, AS/NZS 62368.1
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC / 25°C/ 70% RH
	EMC EMISSION	Compliance to EAC TP TC 020, BSMI CNS15936, KC KSC 9832, KSC 9835
	EMC IMMUNITY	Compliance to EAC TP TC 020, KC KSC 9832, KSC 9835
OTHERS	MTBF	1508.9K hrs min. Telcordia SR-332(Bellcore); 252.2K hrs min. MIL-HDBK-217F (25°C)
	DIMENSION	225*124*35mm (L*W*H)
	PACKING	0.85Kg/15pcs/14.11Kg/0.84CUFT

NOTE

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. Voltage adjustment can only be operated within the input range of 100~120VAC or 200-240VAC. If the voltage adjustment is performed outside this range, it may cause abnormal output.
4. Tolerance: includes set up tolerance, line regulation and load regulation.
5. Line regulation is measured from low line to high line at rated load.
6. Load regulation is measured from 0% to 100% rated load.
7. Length of set up time is measured at cold start. Turning the power supply on/off frequently may lead to an increase of the set up time.
8. Derating may be needed under low input voltages. Please refer to "Static Characteristics" sections for details.
9. Once protections are triggered, 3min(Typ.) of cold down time is required before restart.
10. The ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000 m(6500ft).
11. This power supply does not meet the harmonic current requirements outlined by EN61000-3-2. Please do not use this power supply under the following conditions:
 - a) the end devices is used within the European Union, and
 - b) the end-devices is connected to public mains supply with 220Vac or greater rated nominal voltage, and
 - c) the power supply is:
 - installed in end-devices with average or continuous input power greater than 75W, or
 - belong to part of a lighting system

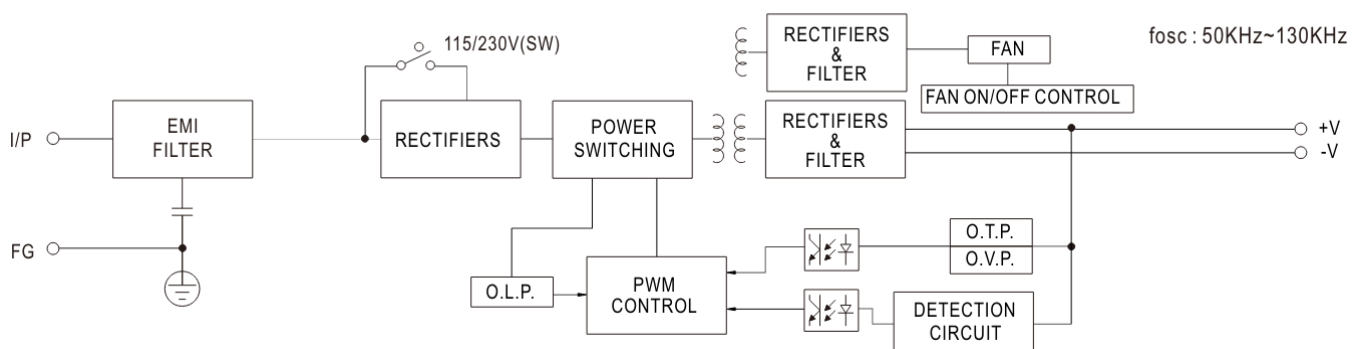
Exception:

Power supplies used within the following end-devices do not need to fulfill EN61000-3-2

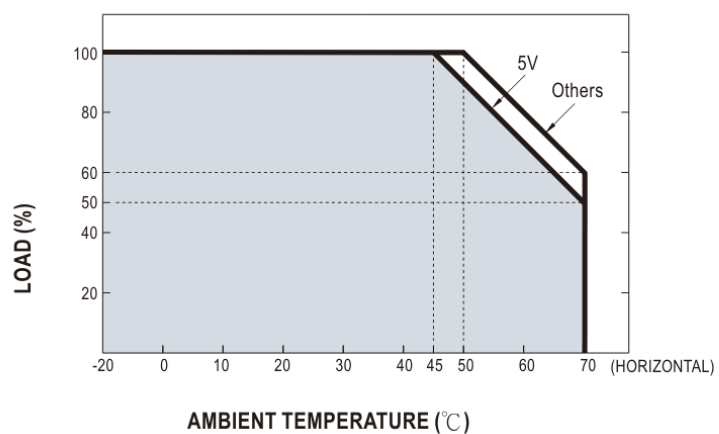
- a) professional equipment with a total rated input power greater than 1000W;
- b) symmetrically controlled heating elements with a rated power less than or equal to 200W

12.RCM is on voluntary basis and meets relevant IEC or AS/NZS standards complying with AS/NZS 4417.1. * Product Liability Disclaimer : For detailed information, please refer to <https://www.meanwell.com/serviceDisclaimer.aspx>

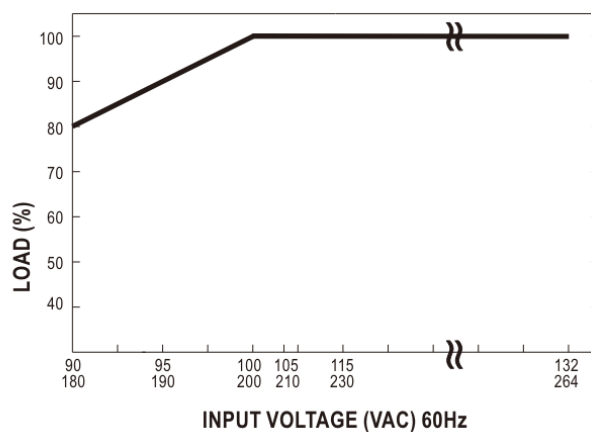
Block Diagram



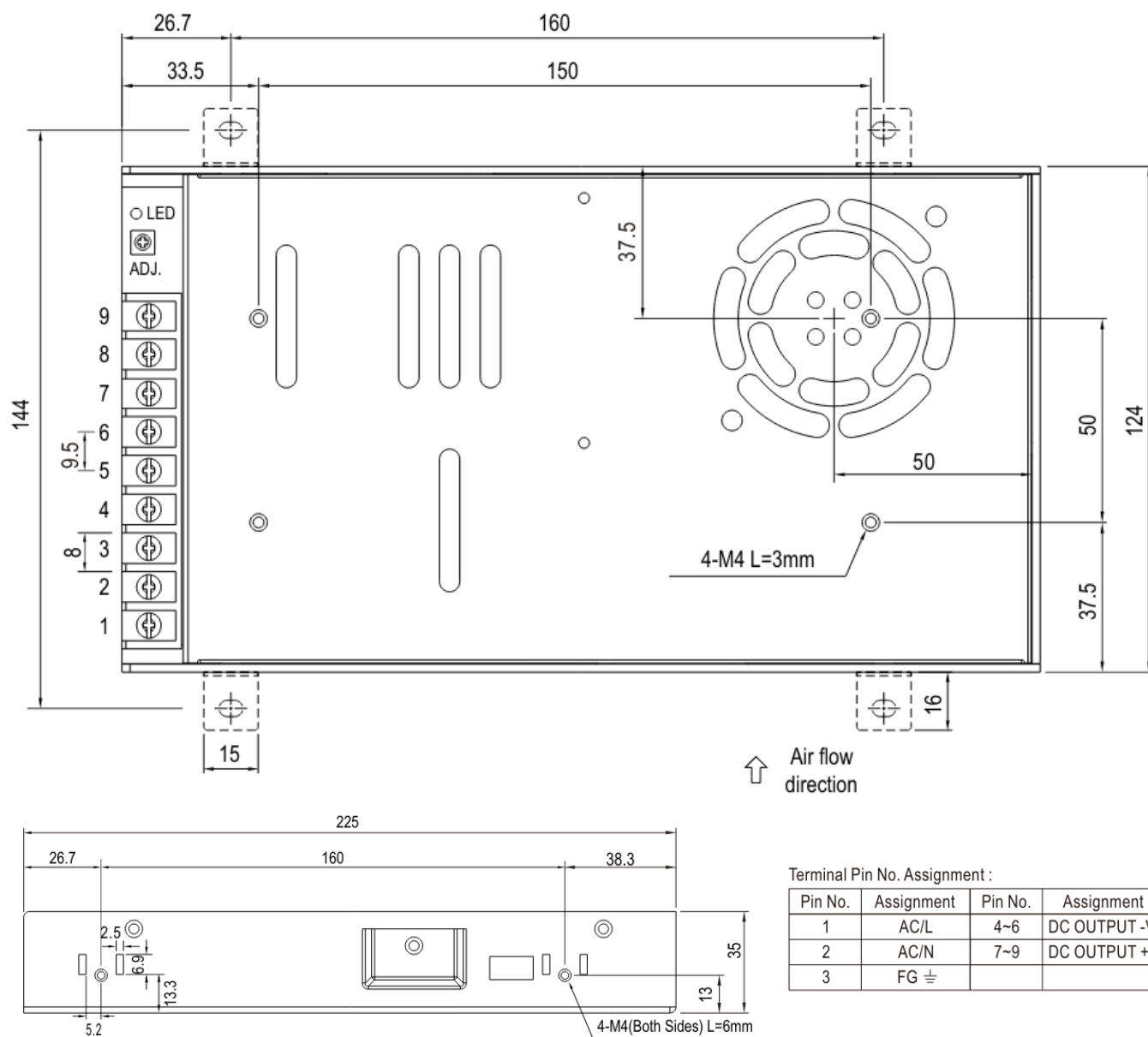
Derating Curve



Static Characteristics



Mechanical Specification



Installation Manual

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



IS 13252(Part 1):2010/
IEC 60950-1:2005



R-41179035
(except for 48V)



R33100
RoHS



Note 12



TPTC004



IEC62368-1
IEC61558-1
IEC61558-2-16



UL62368-1



(Note.11)

Documents / Resources



[MEAN WELL LRS-450-5 Single Output Switching Power Supply](#) [pdf] Instruction Manual
LRS-450-5 Single Output Switching Power Supply, LRS-450-5, Single Output Switching Power Supply, Output Switching Power Supply, Switching Power Supply, Power Supply, Supply

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.