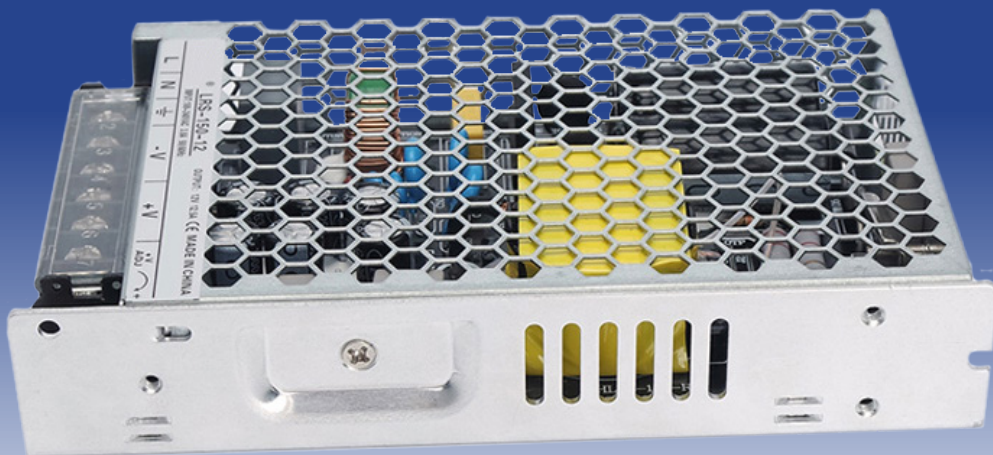


Wavecom Instruments

Winston LRS 150W

Power Supply Series



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Winston LRS 150W

Power Supply Series

Overview

The Winston LRS-150 Series are 150W single-output enclosed power supplies. Featuring a switch selectable input of 115 or 230V AC, the LRS-150 range provides output voltages from 5V through to 48V and offers efficiencies of 87.5%-90%. The 1.8mm pure aluminium case features a specially designed mesh enclosure to maximise heat dissipation, and operates at temperatures between -30°C to 70°C without fan airflow. The LRS-150 delivers less than 0.5W zero load power consumption making it an excellent option for meeting energy standards, and for reducing overall energy usage. With all these features and more, the LRS-150 series offers an excellent price to performance power supply solution.

Features

- ◇ AC input range selectable by switch
- ◇ Withstands up to 300V AC surge input for 5 seconds
- ◇ Less than 0.5W zero load power consumption
- ◇ Miniature size and 1U low profile
- ◇ Operates without external cooling in environments up to 70°C
- ◇ Short circuit, overload and overvoltage protections
- ◇ Cooling by free air convection
- ◇ Operating altitude up to 5000 meters
- ◇ High efficiency, long life and high reliability
- ◇ LED Power Indicator
- ◇ 100% full load burn-in test
- ◇ 3 years warranty

Ordering Information

- | | |
|---|----------------|
| ◇ 150W 5V Single Output Switching Power Supply | WCM-LRM-150-05 |
| ◇ 150W 12V Single Output Switching Power Supply | WCM-LRM-150-12 |
| ◇ 150W 15V Single Output Switching Power Supply | WCM-LRM-150-15 |
| ◇ 150W 24V Single Output Switching Power Supply | WCM-LRM-150-24 |
| ◇ 150W 36V Single Output Switching Power Supply | WCM-LRM-150-36 |
| ◇ 150W 48V Single Output Switching Power Supply | WCM-LRM-150-48 |

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Specifications

Model	LRS-150-05	LRS-150-12	LRS-150-15	LRS-150-24	LRS-150-36	LRS-150-48	
Output	DC Voltage	5V	12V	15V	24V	36V	48V
	Rated Current	22A	12.5A	10A	6.5A	4.3A	3.3A
	Current Range	0 - 22A	0 - 12.5A	0 - 10A	0 - 6.5A	0 - 4.3A	0 - 3.3A
	Rated Power	110W	150W	150W	156W	154.8W	154.8W
	Ripple and Noise	100mVp-p	150mVp-p	150mVp-p	200mVp-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	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	Line Regulation	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	Load Regulation	±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)	16ms/230VAC - 12ms/115VAC at full load						
Input	Voltage Range	85 - 264VAC - 120 - 370VDC					
	Frequency Range	47 - 63Hz					
	Efficiency (Typical)	85%	87.5%	89%	89%	89%	90%
	AC Current (Typical)	2.8A/115VAC - 1.6A/230VAC					
	Inrush Current (Typical)	COLD START 60A/230VAC					
Leakage Current	<0.75mA / 240VAC						
Protection	Overload	110 - 140% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	Over Voltage	5.75 - 6.75V	13.8V - 16.2V	18 - 21V	28.9 - 33.6V	41.4 - 46.8V	55.2 - 64.8V
	Over Temperature	Shut down O/P voltage, re-power on to recover					
Environment	Working Temp.	-20 - +70°C (Refer to "Derating Curve")					
	Working Humidity	20 - 90% RH non-condensing					
	Storage Temperature Humidity	-40 - +85°C, 10 - 95% RH					
	Temperature Coefficient	±0.03% per °C (0 - 50°C)					
Safety	Vibration	10 - 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes					
	Safety Standards	EN60950-1, EN60335-1, EN61558-1 approved					
	Withstand Voltage	I/P-O/P:3.0KVAC I/P-FG:2KVAC O/P-FG:1.25KVAC					
Others	Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH					
	MTBF	648.6K hrs min. MIL-HDBK-217F (25°C)					
	Dimensions	159 x 97 x 30mm (L*W*H) - 0.5Kg					

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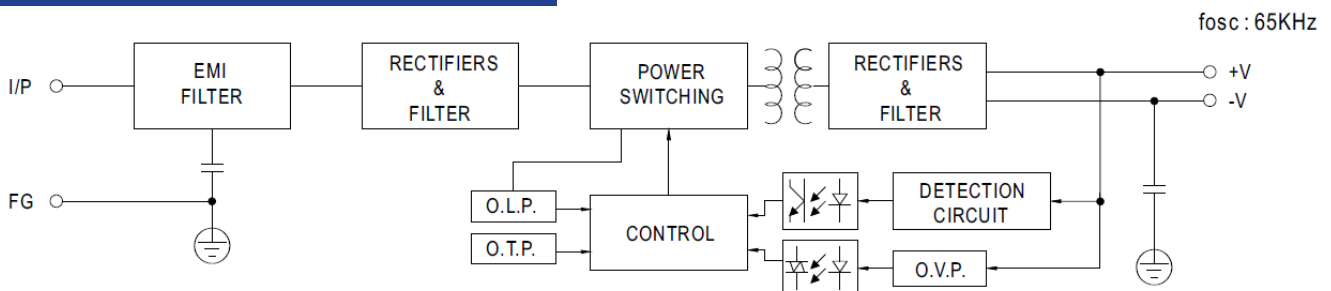
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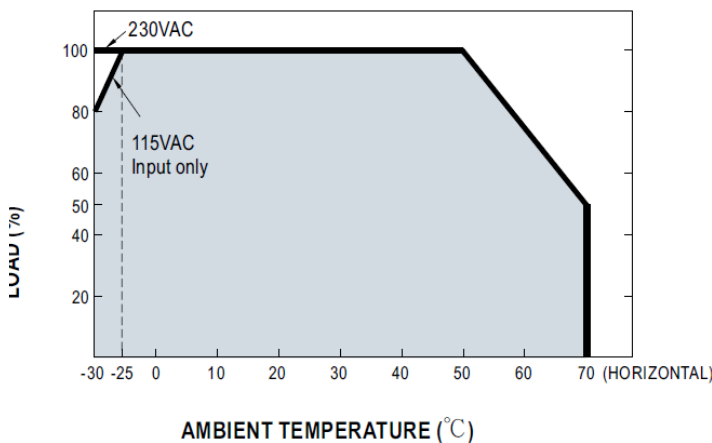
Notes

1. All Parameters not specifically mentioned are measured at 230V AC input, rated load and 25°C ambient temperature
2. Ripple and noise are measured at 20MHz bandwidth by using a 30cm twisted pair-wire terminated with a 0.1uf and 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% rate load.
6. Length of set up time is measured at cold first start. Turning the power supply ON/OFF very quickly may lead to an increase of the set up time.
7. The ambient temperature derating of 5°C/1000m is needed for operating at altitudes greater than 2000m.
8. The power supply is considered a component which will be installed into a final product. The EMC tests have been executed by mounting the unit on a 360mm by 360mm, 1mm thick metal plate. The final equipment must be reconfirmed that it still meets EMC directives.

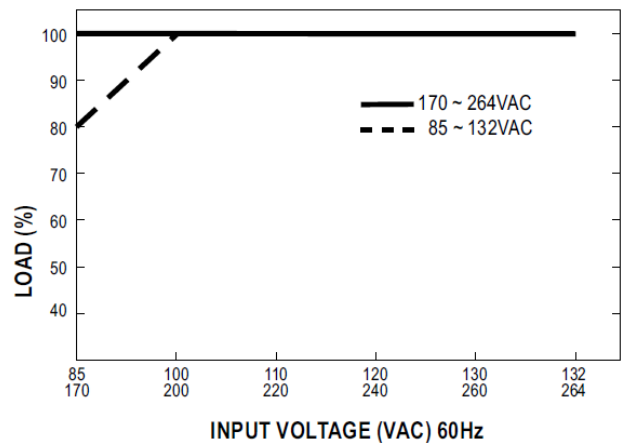
Block Diagram



Derating Curve



Static Characteristics



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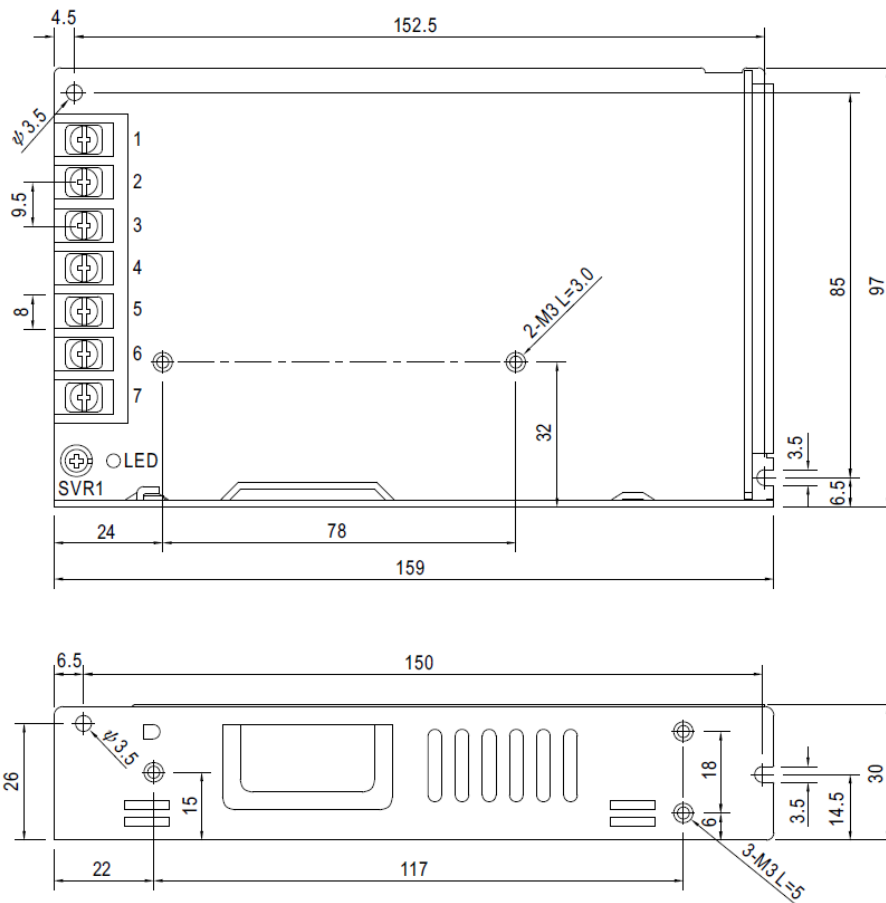
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Mechanical Specification



Terminal Pin Number Allocation

Pin Number	Assignment
1	AC/L
2	AC/N
3	FG \perp
4, 5	DC OUTPUT -V
6, 7	DC OUTPUT +V

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