Wavecom Instruments

Winston LRS 75W

Power Supply Series



South Australia 257 Grange Road Findon, SA 5023 P: +61 08 8243 3500 F: +61 08 8243 3501 E: sales@wavecom.com.au Victoria Asian-Pacific Offices 18-19 Suite 8, 79-83 High Street, Kew, VIC 3101 P: +61 03 9897 4711 F: +61 08 8243 3501 E: sales@wavecom.com.au

Western Australia Unit 2/17 Casino Street, Welshpool, WA 6016 P: +61 08 9353 1943 F: +61 08 9353 4319 E: saleswa@wavecom.com.au

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Overview

The Winston LRS-75 Series are 75W single-output enclosed power supplies. Featuring a full range 85V - 264V AC input, the LRS-75 range provides output voltages from 5V through to 48V and offers efficiencies of 86.5%-91.5%. 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-75 delivers less than 0.3W 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-75 series offers an excellent price to performance power supply solution.

Features

- Universal AC input/Full range
- Withstands up to 300V AC surge input for 5 seconds
- ♦ Less than 0.3W 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

◊	75W 5V Single Output Switching Power Supply	WCM-LRM-75-05
◊	75W 12V Single Output Switching Power Supply	WCM-LRM-75-12
◊	75W 15V Single Output Switching Power Supply	WCM-LRM-75-15
◊	75W 24V Single Output Switching Power Supply	WCM-LRM-75-24
◊	75W 36V Single Output Switching Power Supply	WCM-LRM-75-36
◊	75W 48V Single Output Switching Power Supply	WCM-LRM-75-48

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Specifications

Model		LRS-75-05	LRS-75-12	LRS-75-15	LRS-75-24	LRS-75-36	LRS-75-48	
	DC Voltage	5V	12V	15V	24V	36V	48V	
	Rated Current	14A	6A	5A	3.2A	2.1A	1.6A	
	Current Range	0 - 14A	0 - 6A	0 - 5A	0 - 3.2A	0 - 2.1A	0 - 1.6A	
	Rated Power	70W	72W	75W	76.8W	75.6W	76.8W	
	Ripple and Noise	100mVp-p	120mVp-p	120mVp-p	150mVp-p	200mVp-p	200mVp-p	
Output	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)	60ms/230VAC - 12ms/115VAC at full load						
	Voltage Range	85 - 264VAC - 120 - 373VDC						
	Frequency Range	47 - 63Hz						
lanus	Efficiency (Typical)	86.5%	89%	89%	90%	91.5%	91.5%	
Input	AC Current (Typical)	1.4A/115VAC - 0.85A/230VAC						
	Inrush Current (Typical)	COLD START 50A/230VAC						
	Leakage Current	<0.75mA / 240VAC						
	Overload	110 - 150% rated output power						
Protection		Protection type : Hiccup mode, recovers automatically after fault condition is removed						
Protection	Over Voltage	5.75 - 6.75	13.8V - 16.2V	18 - 21V	28.9 - 33.6V	41.4 - 46.8V	55.2 - 64.8V	
	Over vollage	Protection type : Shut down O/P voltage, re-power on to recover						
	Working Temp.		-2	20 - +70°C (Refer t	o "Derating Curve'	")		
	Working Humidity			20 - 90% RH n	on-condensing			
Environment	Storage Temperature Humidity	-40 - +85°C, 10 - 95% RH						
	Temperature Coefficient	±0.03% per °C (0 - 50°C)						
	Vibration	10 - 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes						
	Safety Standards		EN609	50-1, EN60335-1, I	EN61558-1 2 16 app	roved		
Safety	Withstand Voltage	I/P-O/P:3.0KVAC 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						
Others	MTBF	681.2K hrs min. MIL-HDBK-217F (25°C)						
Others	Dimensions	99 x 97 x 30mm (L*W*H) - 0.3Kg						

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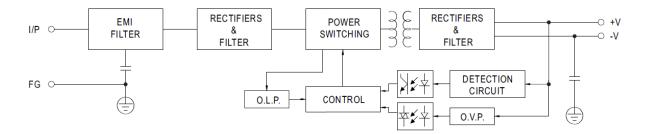
Power Supply Series

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.

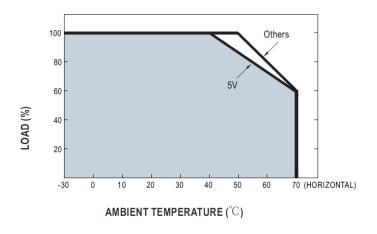
Block Diagram

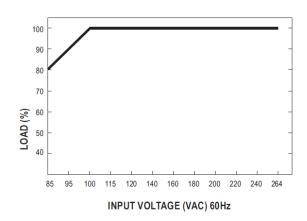
fosc: 65KHz



Derating Curve

Static Characteristics





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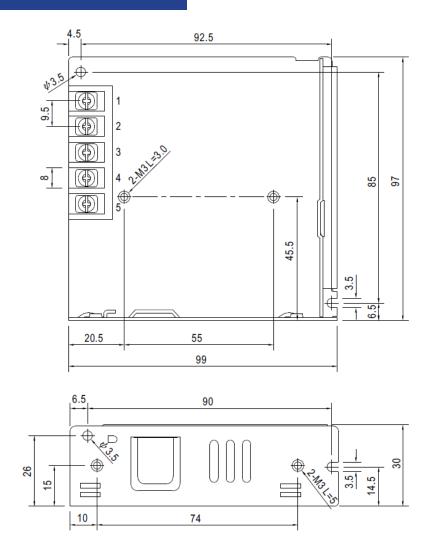
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Mechanical Specification



Terminal Pin Number Allocation

Pin Number	Assignment
1	AC/L
2	AC/N
3	FG ≟
4	DC OUTPUT -V
5	DC OUTPUT +V

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