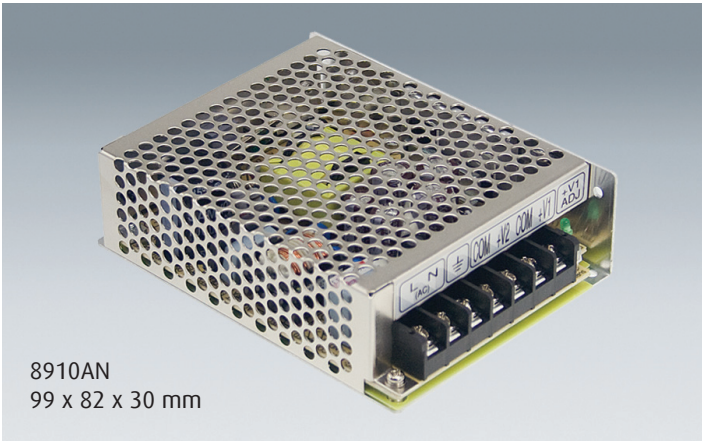


# LRS-50 Series

50W Single Output Switching Power Supply



8910AN  
99 x 82 x 30 mm

## Features

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- No load power consumption <0.2W
- Miniature size and 1U low profile
- Operating altitude up to 5000 meters
- Withstand 300VAC surge input for 5 second
- High operating temperature up to 70°C
- Withstand 5G vibration test
- High Efficiency, long life and high reliability
- 3 years warranty



## Specification

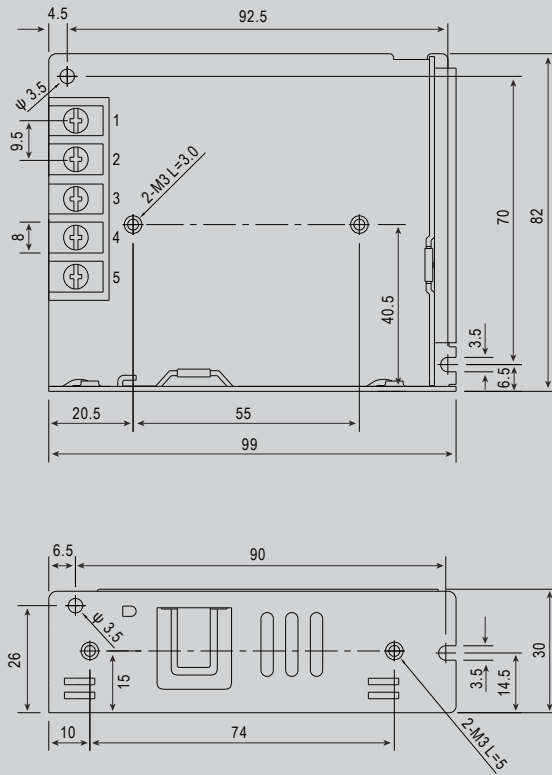
INPUT	<b>Voltage</b>	85 ~ 264VAC		120 ~ 373VDC				
	<b>Frequency</b>	47 ~ 63 Hz						
	<b>Efficiency</b>	80%	83%	86%	88%	88%	89%	90%
	<b>AC Current</b>	0.95A /115VAC		0.56A/230VAC				
	<b>Inrush Current (Typ.)</b>	Cold Start 45A/230VAC						
	<b>Leakage</b>	<0.75mA/240VAC						
OUTPUT	<b>MODEL No.</b>	<b>LRS-50-3.3</b>	<b>LRS-50-5</b>	<b>LRS-50-12</b>	<b>LRS-50-15</b>	<b>LRS-50-24</b>	<b>LRS-50-36</b>	<b>LRS-50-48</b>
	<b>Voltage</b>	3.3V	5V	12V	15V	24V	36V	48V
	<b>Rated Current</b>	10A	10A	4.2A	3.4A	2.2A	1.45A	1.1A
	<b>Current Range</b>	0~10A	0~10A	0~4.2A	0~3.4A	0~2.2A	0~1.45A	0~1.1A
	<b>Rated Power</b>	33W	50W	50.4W	51W	52.8W	52.2W	52.8W
	<b>Ripple Noise MAX.</b>	80mVp-p	80mVp-p	120mVp-p	120mVp-p	150mVp-p	200mVp-p	200mVp-p
	<b>Voltage Adj. Range</b>	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
	<b>Voltage Tolerance</b>	± 3.0%	± 2.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%
	<b>Line Regulation</b>	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%
	<b>Load Regulation</b>	± 2.0%	± 1.0%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%
	<b>Setup Rise Time</b>	1000ms, 30ms/230VAC 2000ms, 30ms/115VAC at full load						
	<b>Hold Up Time</b>	30ms/230VAC 12ms/115 at full load						
	PROTECTION	<b>Overload</b>	110~150% rated output power Protection Type: Hiccup mode, recovers automatically after fault condition is removed					
<b>Over Voltage</b>		3.8~4.45V	5.75~6.9V	13.8~16.2V	18.75~21.75V	28.8~33.6V	41.4~48.6V	55.2~64.8V
ENVIRONMENT	<b>Working Temp.</b>	-30 ~ +70°C (Refer to "Derating Curve")						
	<b>Working Humidity</b>	20 ~ 90% RH non-condensing						
	<b>Storage Temp., Humidity</b>	-40 ~ +85°C, 10~95%RH						
	<b>Temp. Co-efficient</b>	±0.03%/°C (0~50°C)						
	<b>Vibration</b>	10~500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes						
SAFETY & EMC	<b>Safety Standards</b>	UL60950-1, TUV EN60950-1, EN60335-1, EN61558-1/-2-16, CCC GB4943 approved						
	<b>Withstand Voltage</b>	I/P-O/P:3.75KVAC		I/P-FG:2KVAC		O/P-FG:1.25KVAC		
	<b>Isolation Resistance</b>	I/P-OP, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70%RH						
	<b>EMC Emission</b>	Compliance to EN55022 (CISPR22), GB9254 Class B, EN55014, EN61000-3-2,-3						
	<b>EMC Immunity</b>	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61000-6-2 (EN50082-2), heavy industry level, criteria A						
OTHERS	<b>M.T.B.F.</b>	645K hrs min. MIL-HDBK-217F (25°C)						
	<b>Packaging</b>	0.23Kg; 60pcs/14.8Kg/0.88CUFT						

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. 5V when the load factor 0~50%, the switching power less is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.
8. The ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m (6500ft).
9. The power supply is considered a component which will be installed into a final equipment. 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."

# LRS-50 Series

50W Single Output Switching Power Supply

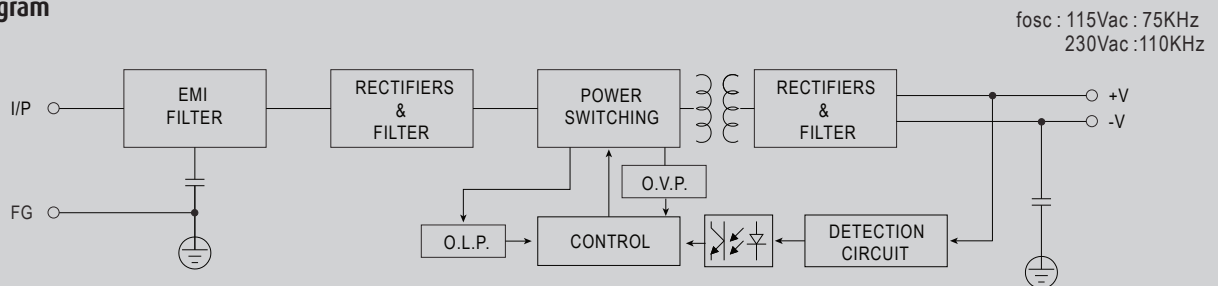
## Mechanical Specification



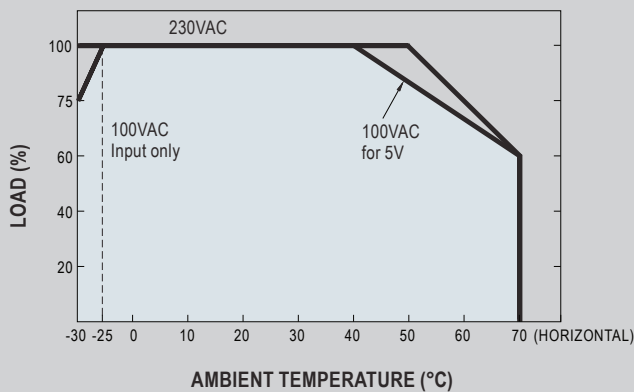
Terminal Pin No. Assignment

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

## Block Diagram



## Derating Curve



## Output Derating VS Input Voltage

