## KD-LRS-100W Series Single Output Switching Power Supply



Dimension: 129\*97\*30mm

## Features:

- · Universal AC input/Full range
- · Miniature size and 1U low profile low weight
- Protections: Short circuit/Overload/Over voltage
- · Cooling by free air convection
- No load power consumption < 0.5W</li>
- · Operating altitude up to 5000 meters ( Note6 )
- · LED indicator for power on
- 100% full load burn-in test
- · High efficiency, long life and high reliability
- · 2 years warranty







### Applications:

- LED lighting
- · Industrial automation machinery
- · Industrial control system
- · Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus

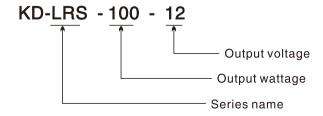
## Description:

KD-LRS-100 series is a 100W single-output enclosed type power supply with 30mm of low profile design. Adopting the full range 85~264 VAC input, the entire series provides an output voltage line of 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 KD-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 0.5W), it allows the end system to easily meet the worldwide energy requirement, LRS-100 has the complete protection functions and 3G anti-vibration capability; it is complied with the international safety regulations such as TUV EN60950-1, UL 60950-1 and GB 4943, TUV EN61347-1, UL 61347-1

KD-LRS-100 series serve as a high price-to-performance power supply solution for various industrial applications.

#### Model Encoding





# KD-LRS-100W Series Single Output Switching Power Supply

#### **SPECIFICATION**

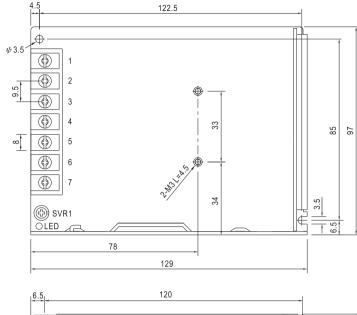
Model	KD-LRS-100-5	KD-LRS-100-12	KD-LRS-100-15	KD-LRS-100-24	KD-LRS-100-36	KD-LRS-100-48		
DC voltage	5V	12V	15V	24V	36V	48V		
Rated current	18A	8.5A	7A	4.5A	2.8A	2.3A		
Current range	0~18A	0~8.5A	0~7A	0~4.5A	0~2.8A	0~2.3A		
Rated power	90W	102W	105W	108W	100.8W	110.4W		
Ripple&noise	100mVp-p	120mVp-p	120mVp-p	150mVp-p	200mVp-p	200mVp-p		
DC voltage ADJ. range	± 10%	± 10%	± 10%	± 10%	± 10%	± 10%		
Voltage tolerance Note.3	± 3%	± 2%	± 1%	± 1%	± 1%	± 1%		
Line regulation Note.4	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%		
Load regulation Note.5	± 2%	± 1%	± 0.5%	± 0.5%	± 0.5%	± 0.5%		
Setup,rise,hold up time	800ms,30ms,55ms/230VAC(full load)							
Voltage range	90~264VAC ,127~373VDC( Withstand 300VAC surge input for 5 second)							
Frequency range	47~63Hz							
AC current	1.9A/115VAC 1.2/230VAC							
Efficiency	86%	88%	88.5%	90%	90.5%	91%		
Inrush current	Cold start 50A/230VAC							
leakage current	< 0.75mA/240VAC							
Overload	Rated output power110% ~ 150%Start overload protection							
	Protection type:hiccup mode,auto-recovery after fault condition is removed							
Over voltage	Rated output voltage 115%~135% Start over voltage protection							
	Protection type:cut off the output,auto-recovery after fault condition is removed							
Working temperature	-30°C ~ +70°C(Please refer to"derating curve")							
Working humidity	20%~90%RH Non-condensing							
Storage temp& humidity	-40°C ~ +85°C;10%~95%RH Non-condensing							
Withstand vibration	10~500Hz,3G 10min./1Cycle, Period for 60min, Each axes							
Withstand voltage	I/P-O/P: 1.5KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC							
Isolation resistance	I/P-O/P,I/P-FG,O/P-FG: 100M Ohms/500VDC/25°C/70%RH							
Safety standards	Compliance to UL 62368 -1,TUV EN62368-1,UL 61347-1,TUV EN 61347-1							
EMC emission	Compliance to EN 55032,EN 55015(CISPR22)Class A, GB9254 Class A,EN 55014,EN 61000-3-2,3							
	Compliance to EN 61000-4-2,3,4,5,6,8,11, EN 55024,EN 61000-6-1							
EMC immunity	Compliance	e to EN 61000-4-	2,3,4,5,6,8,11, EN	33024,EN 61000	J-6-1			
EMC immunity  Dimension	·	e to EN 61000-4- mm(L*W*H)	2,3,4,5,6,8,11, EN	35024,EN 61000	J-0-1			
	129*97*30			55024,EN 61000	J-0- I			
	DC voltage Rated current Current range Rated power Ripple&noise DC voltage ADJ. range Voltage tolerance Note.3 Line regulation Note.4 Load regulation Note.5 Setup,rise,hold up time Voltage range Frequency range AC current Efficiency Inrush current leakage current Overload Over voltage Working temperature Working humidity Storage temp& humidity Withstand voltage Isolation resistance Safety standards	DC voltage 5V  Rated current 18A  Current range 0~18A  Rated power 90W  Ripple&noise 100mVp-p  DC voltage ADJ. range ± 10%  Voltage tolerance Note.3 ± 3%  Line regulation Note.4 ± 0.5%  Load regulation Note.5 ± 2%  Setup,rise,hold up time 800ms,30ms  Voltage range 90~264VAC  Frequency range 47~63Hz  AC current 1.9A/115VA  Efficiency 86%  Inrush current Cold start 50  Inrush current Cold start 50  Inrush current Rated output  Overload Protection ty  Working temperature -30°C ~ +70  Working humidity 20%~90°R  Storage temp& humidity -40°C ~ +85  Withstand voltage I/P-O/P: 1  Isolation resistance I/P-O/P,I/P-0  Safety standards Compliance	DC voltage         5V         12V           Rated current         18A         8.5A           Current range         0~18A         0~8.5A           Rated power         90W         102W           Ripple&noise         100mVp-p         120mVp-p           DC voltage ADJ. range         ± 10%         ± 10%           Voltage tolerance         Note.3         ± 3%         ± 2%           Line regulation         Note.4         ± 0.5%         ± 0.5%           Load regulation         80ms,30ms,55ms/230VAC(fu           Voltage range         90~264VAC ,127~373VDC(fu           Frequency range         47~63Hz           AC current         1.9A/115VAC 1.2/230VAC           Efficiency         86%         88%           Inrush current         Cold start 50A/230VAC           Leakage current         < 0.75mA/240VAC	DC voltage         5V         12V         15V           Rated current         18A         8.5A         7A           Current range         0~18A         0~8.5A         0~7A           Rated power         90W         102W         105W           Ripple&noise         100mVp-p         120mVp-p         120mVp-p           DC voltage ADJ. range         ± 10%         ± 10%         ± 10%           Voltage tolerance         Note.3         ± 3%         ± 2%         ± 1%           Line regulation         Note.4         ± 0.5%         ± 0.5%         ± 0.5%           Load regulation         Note.5         ± 2%         ± 1%         ± 0.5%           Load regulation         Note.5         ± 2%         ± 1%         ± 0.5%           Load regulation         Note.5         ± 2%         ± 1%         ± 0.5%           Load regulation         Note.5         ± 2%         ± 1%         ± 0.5%           Setup,rise,hold up time         800ms,30ms,55ms/230VAC(full load)         Voltage refused         1.2/230VAC (full load)           Frequency range         47~63Hz         1.9A/115VAC 1.2/230VAC         1.2/230VAC         Refused output powerland         88.5%         88.5%           Inrush current         <	DC voltage	DC voltage		

Note: 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25  $^{\circ}\!\text{C}$  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. The ambient temperature derating of  $5^{\circ}$ C/1000 m is needed for operating altitude greater than 2000m(6500ft)
- 7. The power supply is considered as a component which will be installed into a finalequipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests.

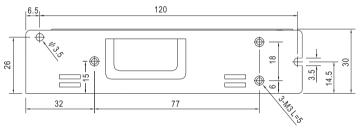
#### Mechanical specification

Unit:mm



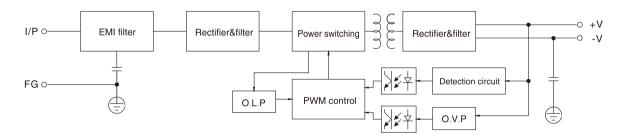
Terminal Pin No. Assignment

	•		
Pin No.	Assignment	Pin No.	Assignment
1	AC/N	4,5	DC OUTPUT -V
2	AC/L	6,7	DC OUTPUT +V
3	FG ±		

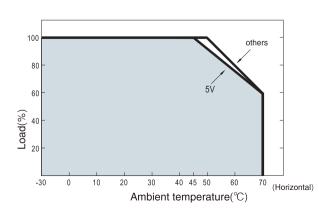


## Block diagram

PWM Frequency: 65KHz



#### Derating curve



## Static characteristic

