



Features

- . Wide input 90V to 264VAC, 50~60Hz suitable for worldwide
- . Output voltage selectable from 12V to 72Vdc constant voltage
- . Protections: Short Circuit / Overload / Over Voltage Protection
- . 100% full load burn-in test for 2Hrs to make every unit reliable.
- . All using 105°C long life electrolytic capacitors
- . Built-in active PFC function, PF>0.95, high efficiency upto 89%
- . LED indicator for power on and withstand 5G vibration test

Safety Standards

- . IEC62368-1 CB report for worldwide use
- . UL62368-1 + CAN/CSA 62368-1 for USA and Canada
- . EN 62368-1:2014/A11:2017 for European Union
- . AS/NZS 62368.1:2018 for Australia and New Zealand
- . J62368-1 for Japan and GB4943.1 for China market.



Product Description:

It is a highly reliable and ultra-thin 450W switching power supply solution with 100-240Vac and designed strictly according to the international safety standards and built-in PFC function PF>0.95. The entire series supplies different models with output voltages ranging between 3.3Vdc and 48Vdc that can satisfy the demands for various types of communication devices, CCTV systems, LED lighting, industrial equipment, laser related machine, test and measurement instruments and so on. This 450W enclosed type switching power supply utilizes aluminum alloy housing built-in on/off controlled fan for force air convection cooling to make low temperature rise.

Technical Specification

Typ. Model	KRP-450-3.3	KRP-450-5	KRP-450-12	KRP-450-24	KRP-450-48
Output					
Output Voltage	3.3VDC	5VDC	12VDC	24VDC	48VDC
Rated Current	90A Max.	90A Max.	37.5A Max.	18.8A Max.	9.5A Max.
Current Range	0 ~ 90A	0 ~ 90A	0 ~ 37.5A	0 ~ 18.8A	0 ~ 9.5A
Output Power	297W Max.	450W Max.	450W Max.	450W Max.	450W Max.
Voltage Tolerance	±5%	±5%	±5%	±5%	±5%
Ripple & Noise	100mVp-p	100mVp-p	200mVp-p	200mVp-p	300mVp-p
Input					
Input voltage	90 ~264Vac or 120- 370Vdc				
Input Frequency	50-60Hz (When the input is AC)				
Input Current	5A Max. @ 115Vac 50/60Hz input				
Inrush Current	70A Max. @ 115 or 240Vac 50/60Hz input				
Efficiency (Typ.)	80%	83%	88%	88%	89%
Leakage Current	≤1.5mA @ full input range				
Protections					
Over current	105~135% rated output power. Auto-Recovery when the fault is removed				
Short Circuit	No damage. Auto-Recovery when the fault is removed				
Over temperature	Shut down o/p voltage, re-power on to recover				
Environmental					
Operation Temperature	-10°C to +45°C, 20%RH to 90%RH				
Storage Temp, Humidity	-45~ +85°C, 10%RH to 95%RH				
Operation Altitude	≤2000m @ full load and rated operating temperatures				
MTBF	≥50000Hrs @ full load and rated operating temperatures				
Mechanical					
Dimensions (W x L x H)	218.0 x 105.0 x 41.0mm (8.58 x 4.13 x 1.62 inch)				
Unit Weight	1.19kg±50 grams				
Packing Information	12pcs/ Carton, carton dimensions:47*37*20cm, 15.5kgs/ Carton				

TEST REPORT

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	RIPPLE & NOISE	200mVp-p (Max)	I/P:230VAC / O/P:FULL LOAD / Ta:25°C	156mVp-p	P
2	VOLTAGE TOLERANCE	-5% ~ +5% (Max)	I/P:100- 230VAC O/P:FULL~MIN. LOAD / Ta:25°C	-2% ~ +2% of output voltage	P
3	LINE REGULATION	-1% ~ +1% (Max)	I/P:90VAC ~264VAC O/P:FULL LOAD / Ta:25°C	-0.05% ~ +0.05% of output voltage	P
4	LOAD REGULATION	-3% ~ +3% (Max)	I/P:230VAC O/P:FULL ~MIN LOAD / Ta:25°C	-0.98% ~ +0.98% of output voltage	P
5	OVER/UNDERSHOOT	<±5%	I/P: 230VAC O/P:FULL LOAD / Ta:25°C	0.9%	P
6	SET UP TIME	4000 mS (Max)	I/P:115VAC O/P:FULL LOAD / Ta:25°C	3100 mS	P
7	RISE TIME	100 mS (Max)	I/P: 230VAC O/P:FULL LOAD / Ta:25°C	59 mS	P
8	HOLD UP TIME	16 mS (Min)	I/P: 115VAC O/P:FULL LOAD / Ta:25°C	19 mS	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	VOLTAGE RANGE	90VAC~264VAC	I/P:TESTING O/P:FULL LOAD / Ta:25°C	84V~264V	P
2	FREQUENCY RANGE	50HZ - 60HZ (Typ) NO DAMAGE OSC	I/P: 100VAC ~ 240VAC O/P:FULL~MIN LOAD / Ta:25°C	TEST: OK	P
3	EFFICIENCY	83% (Typ)	I/P:230VAC O/P:FULL LOAD / Ta:25°C	83.85%	P
4	AVERAGE EFFICIENCY	>81%	I/P:115/230VAC & O/P:25%、50%、75%、100% LOAD & Ta:25°C	81.66% (115VAC) 81.96% (230VAC)	P
5	AC CURRENT	5.0A (Max)	I/P:100VAC & O/P:FULL LOAD Ta:25°C	4.88A	P
6	INRUSH CURRENT	<70A COLD START	I/P: 230VAC / O/P:FULL LOAD Ta:25°C	63.11A	P
7	LEAKAGE CURRENT	<1.5mA	I/P:240VAC & O/P:Min LOAD Ta:25°C	L-FG:1.13mA N-FG:1.02mA	P

PROTECTION FUNCTION TEST

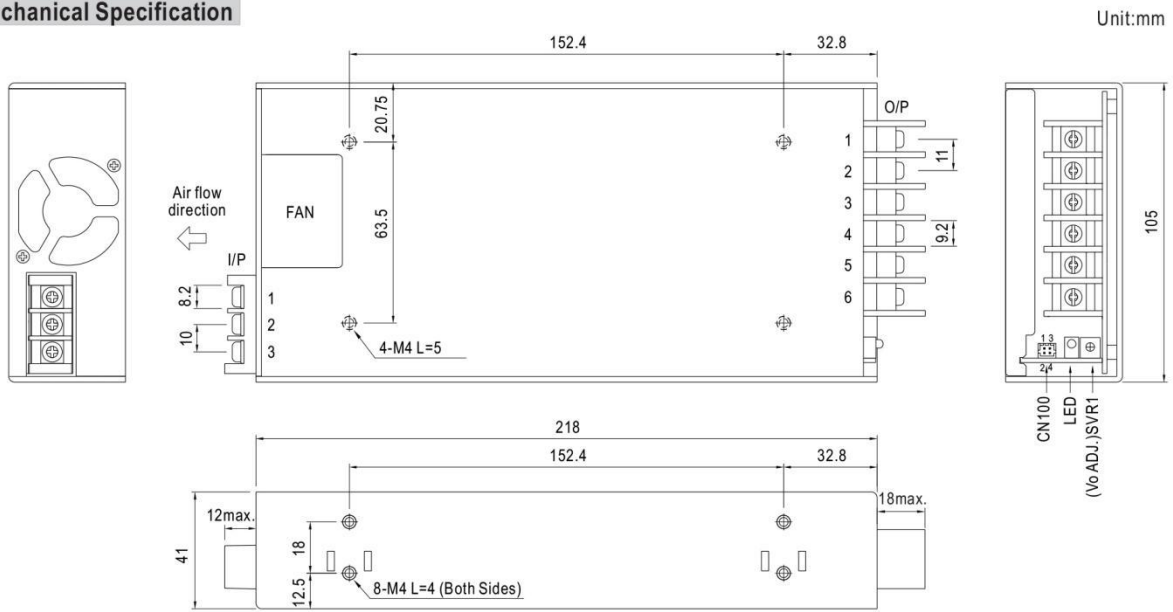
NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 ~ 135% (Typ)	I/P:230VAC & O/P:TESTING Ta:25°C	113.3% HICCUP MODE	P
2	OVER VOLTAGE PROTECTION	120 ~ 140% (Typ)	I/P:230VAC O/P:MIN LOAD & Ta:25°C	Hiccup mode ,recovers automatically after fault condition is removed	P
3	SHORT PROTECTION	SHORT OUTPUT 1 HOUR NO DAMAGE	I/P:264VAC O/P:FULL LOAD & Ta:25°C	NO DAMAGE HICCUP MODE	P

SAFETY TEST & E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC/min I/P- FG: 2KVAC/min O/P-FG:0.5KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG:0.6 KVAC/min Ta:25°C	I/P-O/P:5.612mA I/P-FG: 4.812mA O/P-FG:3.321mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ	I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C	I/P-O/P: 9999MΩ I/P-FG: 9999MΩ O/P-FG:9999 MΩ NO DAMAGE	P
3	CONDUCTION	BS EN/EN55032(CISPR32), FCC PART 15 / CISPR22 CAN	I/P: 230 VAC (50HZ) O/P: FULL/50% LOAD Ta: 25°C	PASS Test by certified Lab	P
4	RADIATION	BS EN/EN55032(CISPR32), FCC PART 15 / CISPR22 CAN	I/P: 230 VAC (50HZ) O/P: FULL LOAD Ta: 25°C	PASS Test by certified Lab	P
5	SURGE	BS EN/EN61000-4-5 LIGHT INDUSTRY L-N: 1KV	I/P: 230 VAC/50HZ O/P: FULL LOAD / Ta: 25°C	CRITERIA A	P
6	E.S.D	BS EN/EN61000-4-2 LIGHT INDUSTRY AIR: 8KV / Contact: 4KV	I/P: 230 VAC/50HZ O/P: FULL LOAD Ta: 25°C	CRITERIA A	P

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	ZHU LI	WANG LW	ZHANG DL

Mechanical Specification



AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	AC/L
2	AC/N
3	FG \perp

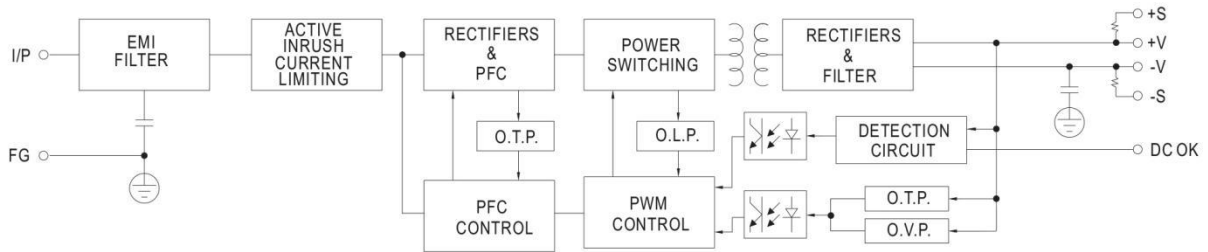
DC Output Terminal Pin No. Assignment

Pin No.	Assignment
1~3	-V
4~6	+V

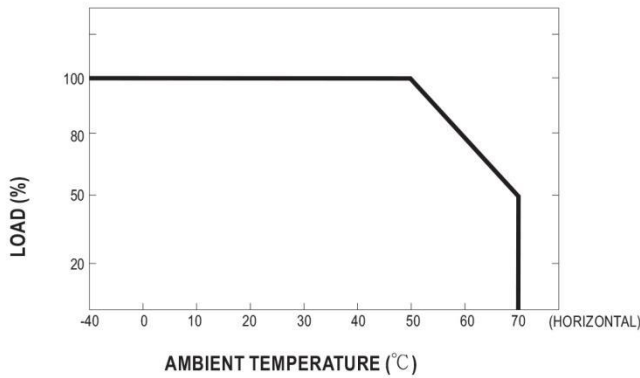
Connector Pin No. Assignment(CN100) : HRS DF11-4DP-2DS or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	DC-OK	HRS DF11-4DS or equivalent	HRS DF11-**SC or equivalent
2	GND		
3	+S		
4	-S		

Block Diagram



Derating Curve



Output Derating VS Input Voltage

