



Features

- . Wide input 90V to 264VAC, 50~60Hz suitable for worldwide
- . Output voltage selectable from 12V to 48Vdc 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>0.97, high efficiency upto 92%
- . 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 2000W switching power supply solution with 100-240Vac and designed strictly according to the international safety standards and built-in PFC function PF>0.97. The entire series supplies different models with output voltages ranging between 12Vdc and 48Vdc that can satisfy the demands for various types of communication devices, digital broadcasting, RF application industrial equipment, laser related machine, test and measurement instruments and so on. This 2000W 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	KSP-2000-12	KSP-2000-15	KSP-2000-24	KSP-2000-36	KSP-2000-48
Output					
Output Voltage	12VDC	15VDC	24VDC	36VDC	48VDC
Rated Current	100A Max.	100A Max.	80A Max.	55A Max.	42A Max.
Current Range	0 ~ 100A	0 ~ 100A	0 ~ 80A	0 ~ 55A	0 ~ 42A
Output Power	1200W Max.	1500W Max.	1920W Max.	1980W Max.	2016W Max.
Voltage Tolerance	±5%	±5%	±5%	±5%	±5%
Ripple & Noise	200mVp-p	200mVp-p	250mVp-p	300mVp-p	300mVp-p
Input					
Input voltage	90 ~264Vac or 250- 320Vdc				
Input Frequency	50-60Hz (When the input is AC)				
Input Current	16A Max. @ 115Vac 50/60Hz input				
Inrush Current	50A Max. @ 115 or 240Vac 50/60Hz input				
Efficiency (Typ.)	87%	87%	90%	91%	92%
Leakage Current	≤2mA @ full input range				
Protections					
Over current	105~125% 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)	295.0 x 127.0 x 41.0mm (11.62 x 5.00 x 1.62 inch)				
Unit Weight	1.95kg±100 grams				
Packing Information	6pcs/ Carton, carton dimensions:47*37*20cm, 12.7kgs/ Carton				

TEST REPORT

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	RIPPLE & NOISE	150mVp-p (Max)	I/P:230VAC / O/P:FULL LOAD / Ta:25°C	98mVp-p	P
2	VOLTAGE TOLERANCE	-5% ~ +5% (Max)	I/P:100- 230VAC O/P:FULL~MIN. LOAD / Ta:25°C	-0.5% ~ +0.5% 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	-0.1% ~ +0.1% of output voltage	P
5	OVER/UNDERSHOOT	<±5%	I/P: 230VAC O/P:FULL LOAD / Ta:25°C	0.8%	P
6	SET UP TIME	1500 mS (Max)	I/P:115VAC O/P:FULL LOAD / Ta:25°C	1120 mS	P
7	RISE TIME	60 mS (Max)	I/P: 230VAC O/P:FULL LOAD / Ta:25°C	15 mS	P
8	HOLD UP TIME	10 mS (Min)	I/P: 115VAC O/P:FULL LOAD / Ta:25°C	16 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	88V~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	87% (Typ)	I/P:230VAC O/P:FULL LOAD / Ta:25°C	87.33%	P
4	AVERAGE EFFICIENCY	>85%	I/P:115/230VAC & O/P:25%、50%、75%、100% LOAD & Ta:25°C	86.36% (115VAC) 86.85% (230VAC)	P
5	AC CURRENT	16A (Max)	I/P:100VAC & O/P:FULL LOAD Ta:25°C	15.16A	P
6	INRUSH CURRENT	<50A COLD START	I/P: 230VAC / O/P:FULL LOAD Ta:25°C	31.93A	P
7	LEAKAGE CURRENT	<2.0mA	I/P:240VAC & O/P:Min LOAD Ta:25°C	L-FG:0.99mA N-FG:0.89mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 ~ 125% (Typ)	I/P:230VAC & O/P:TESTING Ta:25°C	112.24% 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

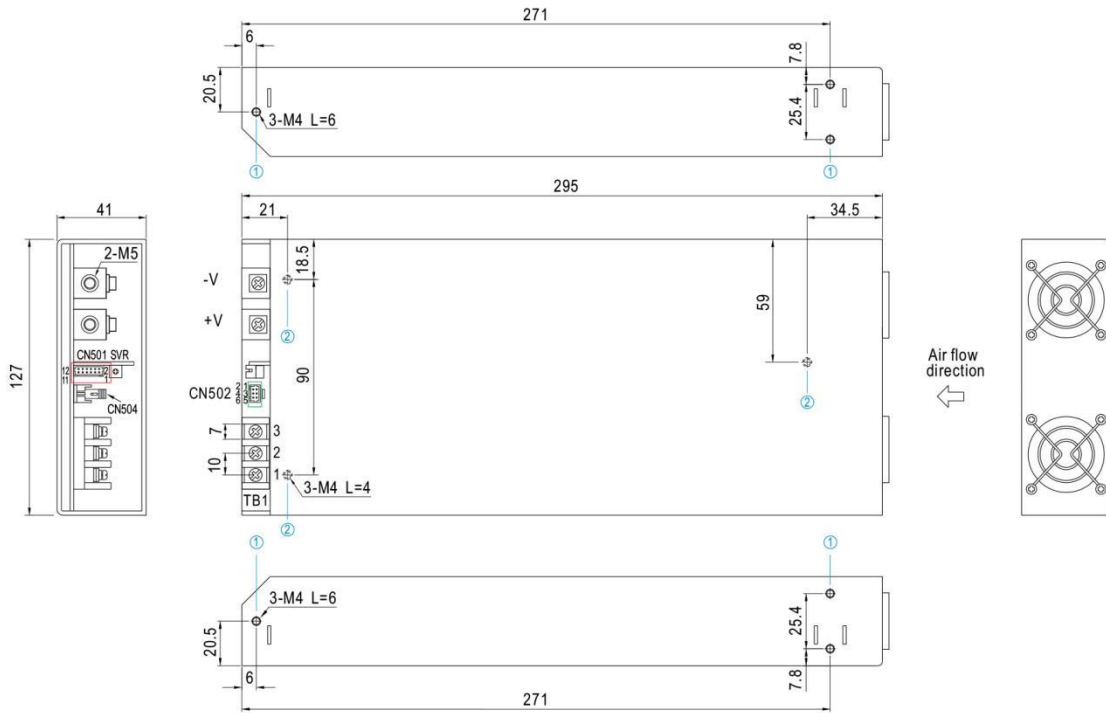
SAFETY TEST & E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC/min I/P- FG: 1.5KVAC/min O/P-FG:0.5KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 1.8 KVAC/min O/P-FG:0.6 KVAC/min Ta:25°C	I/P-O/P:9.52mA I/P-FG: 8.20mA O/P-FG:7.39mA 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

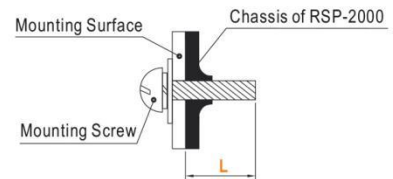
TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	ZHU LI	WANG LW	ZHANG DL

Mechanical Specification

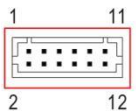
Unit:mm



Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M4	6mm	7~10Kgf-cm
②	M4	4mm	7~10Kgf-cm



※Control Pin No. Assignment (CN501) : HRS DF11-12DP-2DS or equivalent



Mating Housing	HRS DF11-12DS or equivalent
Terminal	HRS DF11-12SC or equivalent

Pin No.	Function	Description
1	+S	Positive sensing for remote sense.
2	-S	Negative sensing for remote sense.
3	PV	Connection for output voltage programming. (Note.1)
4	GND	This pin connect to the negative terminal(-V).
5	DC-OK	High (4.5 ~ 5.5V) : When the Vout ≤ 80% ± 6%. Low (0 ~ 0.5V) : When Vout ≥ 80% ± 6%. The maximum sourcing current is 10mA and only for output. (Note.2)
6	T-ALARM	High (4.5 ~ 5.5V) : When the internal temperature (TSW1 or TSW2 open) exceeds the limit of temperature alarm. Low (0 ~ 0.5V) : When the internal temperature (TSW1 or TSW2 short) under the limit temperature. The maximum sourcing current is 10mA and only for output. (Note.2)
7	Remote ON-OFF	The unit can turn the output on and off by electrical signal or dry contact between Remote ON-OFF and +5V-AUX. (Note.2) Short (4.5 ~ 5.5V) : Power OFF ; Open (0 ~ 0.5V) : Power ON ; The maximum input voltage is 5.5V.
8,9,10	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+V & -V).
11	+5V-AUX	Auxiliary voltage output, 4.5~5.5V, referenced to GND-AUX. The maximum load current is 0.3A. This output has the built-in "Oring diodes" and is not controlled by the Remote ON-OFF control.
12	+12V-AUX	Auxiliary voltage output, 10.6~13.2V, referenced to GND-AUX. The maximum load current is 0.8A. This output has the built-in "Oring diodes" and is not controlled by the Remote ON-OFF control.

Note1: Non-isolated signal, referenced to the output terminals (-V).

Note2: Isolated signal, referenced to GND-AUX.