



### Features

- . Input 90V to 264VAC, 50~60Hz suitable for worldwide use
- . Output voltage optional from 3.3V 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
- . Cooling by free air convection, operating temperature -30~50°C
- . Long life and high reliability design with 3 years warranty
- . Low no load power consumption <0.3W and efficiency upto 90%

### 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 quality 45W open frame fire emergency and evacuation system power supply solution with wide range 90-264Vac input and designed strictly according to the international safety standards. The entire series supplies different models with output voltages ranging between 3.3Vdc and 48Vdc that can satisfy the demands for various types of mechanical and electrical equipment, household electronic device, communication device and so on. The 45W open frame type switching power supply solution is built-in full protections of over load / short circuit and over voltage with low no load power consumption <0.3W and high efficiency up to 90%. The entire series can operate at the ambient temperature between -30 and 50°C without any derating under air convection.

### Technical Specification

Typ. Model	KEPS-45-3.3	KEPS-45-5	KEPS-45-12	KEPS-45-24	KEPS-45-48
<b>Output</b>					
Output Voltage	3.3VDC	5VDC	12VDC	24VDC	48VDC
Rated Current	8A	8A	3.8A	1.9A	1.0A
Current Range	0 ~ 8A	0 ~ 8A	0 ~ 3.8A	0 ~ 1.9A	0 ~ 1.0A
Output Power	26.4W Max.	40W Max.	45.6W Max.	45.6W Max.	48W Max.
Voltage Tolerance	±3%	±3%	±2%	±2%	±2%
Ripple & Noise	100mVp-p	100mVp-p	150mVp-p	300mVp-p	300mVp-p
<b>Input</b>					
Input voltage	90 - 264Vac or 120- 370Vdc				
Input Frequency	50-60Hz (When the input is AC)				
Input Current	1.8A Max. @ 100 ~240Vac 50/60Hz input				
Inrush Current	60A Max. @ 100 ~240Vac 50/60Hz input				
Efficiency (Typ.)	80%	82%	87%	89%	90%
Leakage Current	≤2mA @ full input range				
<b>Protections</b>					
Over current	115~160% 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				
<b>Environmental</b>					
Operation Temperature	-30°C to +50°C, 20%RH to 90%RH				
Storage Temp, Humidity	-45~ +85°C, 10%RH to 95%RH				
Operation Altitude	≤4000m @ full load and rated operating temperatures				
MTBF	≥50000Hrs @ full load and rated operating temperatures				
<b>Mechanical</b>					
Dimensions (L x W x H)	101.6 x 50.8 x 29.0mm (4.00 x 2.00 x 1.14 inch)				
Unit Weight	140g±5 grams				
Packing Information	96pcs/ Carton, carton dimensions:47*37*20cm, 14.5kgs/ Carton				

## TEST REPORT

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	RIPPLE & NOISE	100mVp-p (Max)	I/P:230VAC / O/P:FULL LOAD / Ta:25°C	71mVp-p	P
2	VOLTAGE TOLERANCE	-2% ~ +2% (Max)	I/P:90VAC~264VAC O/P:FULL~MIN. LOAD / Ta:25°C	-1% ~ +1.2% of output voltage	P
3	LINE REGULATION	-1% ~ +1% (Max)	I/P:90VAC ~264VAC O/P:FULL LOAD / Ta:25°C	-0.06% ~ +0.13% of output voltage	P
4	LOAD REGULATION	-1% ~ +1% (Max)	I/P:230VAC O/P:FULL ~MIN LOAD / Ta:25°C	-0.52% ~ +0.60% of output voltage	P
5	OVER/UNDERSHOOT	<±5%	I/P: 230VAC O/P:FULL LOAD / Ta:25°C	1.0%	P
6	SET UP TIME	2000 mS (Max)	I/P:230VAC O/P:FULL LOAD / Ta:25°C	1360 mS	P
7	RISE TIME	50 mS (Max)	I/P: 230VAC O/P:FULL LOAD / Ta:25°C	38 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	82% (Typ)	I/P:230VAC O/P:FULL LOAD / Ta:25°C	82.31%	P
4	AVERAGE EFFICIENCY	>80%	I/P:115/230VAC & O/P:25%、50%、75%、100% LOAD & Ta:25°C	80.54% (115VAC) 81.05% (230VAC)	P
5	AC CURRENT	1.8A (Max)	I/P:100VAC & O/P:FULL LOAD Ta:25°C	0.92A	P
6	INRUSH CURRENT	<60A COLD START	I/P: 230VAC / O/P:FULL LOAD Ta:25°C	43.25A	P
7	LEAKAGE CURRENT	<2mA	I/P:240VAC & O/P:Min LOAD Ta:25°C	L-FG:1.216mA N-FG:1.200mA	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	OVER LOAD PROTECTION	115 ~ 160% (Typ)	I/P:230VAC & O/P:TESTING Ta:25°C	140.22% HICCUP MODE	P
2	OVER VOLTAGE PROTECTION	115 ~ 135% (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: 2.4KVAC/min O/P-FG: 0.6KVAC/min Ta:25°C	I/P-O/P: 3.71mA I/P-FG: 2.89mA O/P-FG: 2.35mA 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 B	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 B	P

TEST RESULT	TESTER	REVIEW	APPROVAL
<b>PASS</b>	<b>ZHU LI</b>	<b>WANG LW</b>	<b>ZHANG DL</b>