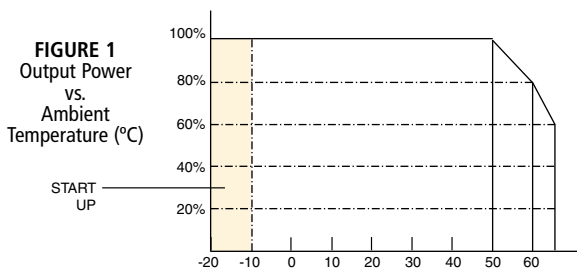


# Kepeco's cost-effective RKE 1.5KW bulk power supplies are small in size, too.



These lightweight (less than 7 lbs.), compact (less than 160 cubic inches), fully enclosed/shielded power converters deliver either 24 volts or 48 volts d-c, to run distributed power systems, motors, actuators or heaters. Their universal a-c input (85-265V a-c) is at home with either 115V a-c or 230V a-c, though they produce significantly more output at the higher input voltage, and should be run from 200-240 volt mains wherever possible. Power factor correction is standard, as is full compliance with all international safety and EMI standards. Units may easily be paralleled for greater power. Current sharing is built-in. RKE's MOSFET switch operates at a switching frequency of 140 KHz to provide well over 80% conversion efficiency. Their clean d-c output features both overvoltage protection and overcurrent limiting limiting for intrinsic safety.



RKE GENERAL/ENVIRONMENTAL SPECIFICATIONS			
SPECIFICATION		RATING/DESCRIPTION	CONDITION
Temperature	Operating	-10 to +50°C	See the power rating plot for operation at reduced power up to 65°C, Fig. 1
	Start up	-20 to +50°C	
	Storage	-30 to +75°C	
Humidity	Operating	10 to 95% RH	No condensation
	Storage	10 to 95% RH	
Vibration	5-10Hz	10mm amplitude	Sweep time 10 min. 1 hr ea axis Not operating
	10-200Hz	(2g) acceleration	
Shock	Acceleration	30g	3 shocks ea axis Not operating
	Duration	11 ±5 msec	
Safety Standards		UL1950; CSA22.2 No. 950-95 (by UL)	Ambient temp. 50°C max. Creepage/clearance of DEN AN app 8
Conducted Noise		FCC Class B, VCCI; EN55011-B; EN55022-B	
Radiated Noise		FCC Class B, VCCI; EN55011-B; EN55022-B	
Input Harmonics	Current	EN61000-3-2	
	Immunity	EN50082-2	
ESD Immunity		EN61000-4-2 level 4	Normal operation
Radiation Field Immunity		EN61000-4-3 level 3	Normal operation
Fast Transient/Burst Immunity		EN61000-4-4 level 3	Normal operation
Surge Immunity		EN61000-4-5 level 4	No damage
Conducted Noise Immunity		EN61000-4-6 level 3	Normal operation
Magnetic Field Immunity	Pwr. Freq	EN61000-4-8 level 4	Normal operation
Voltage Dip/Short Interruption Immunity		EN61000-4-11	Normal operation
Withstand Voltage	input-output	3.0KV a-c, 1 min.	Cutout curr. 20 mA <sup>(1)</sup>
	input-ground	2.0KV a-c, 1 min.	Cutout curr. 20 mA <sup>(1)</sup>
	output-ground	500V a-c, 1 min.	Cutout curr. 100 mA <sup>(1)</sup>
Insulation Resistance	input-output	>100 MΩ (d-c 500V)	(1)
	input-ground		
	output-ground		
Frame Material		steel	
Dimensions	Metric (English)	92mm (3.62") H	
	Metric (English)	120mm (4.72") W	
	Metric (English)	237mm (9.33") D	
Weight	Metric (English)	3.0Kg (6.6 lbs)	
Cooling		Built-in fan	
Mounting		3 surfaces	See outline drawings

1) Temperature: 15°C to 35°C and humidity - 10%-85% RH

## RKE MODEL TABLE

MODEL	OUTPUT VOLTS	SETTING RANGE	OVP SETTING	OUTPUT CURRENT	OUTPUT POWER	CURRENT LIMIT SHORT CKT	RIPPLE/NOISE
		(Volts)	(Volts)	(Amps)	(Watts)	(Amps)	(mV p-p)
				a-c high / a-c low (1)	a-c high / a-c low (1)		
RKE 24-50K	24	16.8-31.2V	32~35	50/37.5	1200/900	55~65/70	200/300
RKE 48-32K	48	33.6-55V	55~65	32/18.8	1536/897.6	33.6~36.8/45	300/400

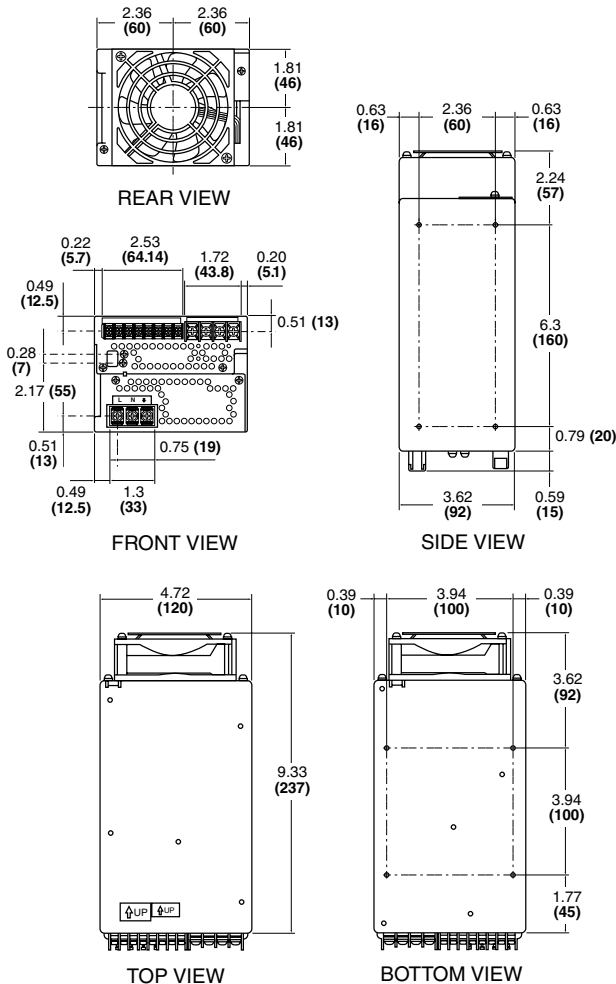
(1) a-c high = 170-265V a-c in; a-c low = 85-132V a-c in.

## FEATURES

- Operation indicator, green LED.
- Wide range a-c input: 85-265V a-c. 50-60Hz.
- Remote on-off control.
- Parallel operation with a current balance circuit.
- Series operation.
- Master slave operation.
- Fully isolated d-c output.
- Variable output voltage adjust 70-115% with external trimmer.
- Power fail alarm.
- Fan-cooled, built-in variable-speed fan.
- Full current output to +50°C; 80% at 60°C.
- N+1 redundancy operation for ultra-reliability.
- Conducted and radiated EMI: Class B.

### OUTLINE DIMENSIONAL DRAWINGS

Fractional dimensions in light face type are in inches. dimensions in bold face type are in millimeters.



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## RKE INPUT CHARACTERISTICS

SPECIFICATIONS		RATING/DESCRIPTION	CONDITION (1)
Input Voltage Range		85-265V a-c	
Input Low Range	Nominal	100-120V a-c	With low a-c input, the maximum output available is approx. 900W
	Maximum	85-132V a-c	
Input High Range	Nominal	200-240V a-c	Full rated output is available with the high a-c input range
	Maximum	170-265V a-c	
Input Frequency Range		47-66 Hz	0-100% load, -10 to +65°C
Input Current	Nominal Low	12A rms max	100-120V a-c
	Nominal High	10A rms max (2)	200-240V a-c
Surge Current	Nominal Low	15A typ, 20A max	(3)
	Nominal High	30A typ, 40A max	(3)
Leakage Current	0.3 mA typ, 0.75 mA max		120V a-c, 60 Hz IEC 950 and UL 1950
	0.6 mA typ, 0.75 mA max		240V a-c, 60 Hz IEC 950 and UL 1950
Power Factor	0.99 typ		100V rated output
	0.95 typ		200V rated output
Switching Frequency		140 KHz typ	
Input Fuse Value		250V, 25A	

(1) Unless otherwise specified, input and output are at the rated input and output and the ambient temperature is 25°C.

(2) RKE 24-50K: 8A rms max.

(3) The current flow into EMI filter does not include surge current. Limited to first surge only.

## RKE OUTPUT CHARACTERISTICS

SPECIFICATIONS		RATING/DESCRIPTION	CONDITION
Source Effect	typ	0.1%	85-132 or 170-265V a-c
	max	0.2%	
Load Effect	typ	1%	0-100% load
	max	2%	
Temperature Effect	typ	0.5%	-10°C to +65°C
	max	1.0%	
Combined Effect	typ	±1.6%	Source, load and temperature
	max	±3.2%	
Time Effect (drift)	typ	0.2%	0.5-8 hours
	max	0.5%	
Setting Tolerance		±0.48V	
Transient Recovery Characteristic	Excursion	±4% maximum	50% rated output current
	Recovery	1 millisecond max	
Start Up Time	typ	300 ms	100V a-c
	max	450 ms	
	typ	250 ms	200V a-c
	max	400 ms	
Hold Up Time	typ	10 ms	100V a-c
	min	7 ms	
	typ	10 ms	200V a-c
	min	7 ms	
Efficiency	24V typ	83%	100V a-c
		85%	200V a-c
	48V typ	85%	100V a-c
		88%	200V a-c
Acceptable Output Capacitor	10,000 µF		Start-up time is affected

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